COUNTWAY LIBRARY
HC 3JCK /

BOSTON
MEDICAL LIBRARY
8 THE FENWAY

THE JOURNAL

OF THE

Michigan State Medical Society

The Official Organ of the State and County Medical Societies

PUBLISHED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. XI

January to December, 1912

BATTLE CREEK, MICH.

WILFRID HAUGHEY, A.M., M.D., Editor

BOSTON MEDICAL
JUL 2 1913
LIBRARY.

CATALOGUED
JUL 2 1913
J. F. B.

BOSTON MEDICAL
JUL 2 1913
LIBRARY.

13044

The Journal of the
Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

Vol. XI BATTLE CREEK, MICHIGAN, JANUARY, 1912 No. 1

ORIGINAL ARTICLES

DISEASES OF THE THYROID*

CHARLES H. MAYO, M. D.
Rochester, Minn.

Many theories have been advanced with regard to the special secretion and function of the thyroid gland. The various glands of the body can be classified into three groups; protective, digestive and eliminative. The thyroid is classed among the protective glands. From investigations which have been made to the present time, it would seem that in association with the parathyroid the thyroid gland is an important factor in the control of calcium metabolism; that in asscociation with the hypophysis, it is concerned in the development of the body; and that together with the adrenals and the hypophysis, it serves to control blood pressure and circulation through the so-termed internal secretion.

While a relationship is thought, by some, to exist between the thyroid and the pancreas, yet that connection is not well understood.

That the thyroid is a sex gland is indicated by the fact that, in some invertebrates, it empties by a duct into the uterus.

The ductless glands in the neck can be demonstrated in embryos of 4 mm. The thyroid develops from three anlage, a superior median in the tongue-bulb, and two lower in the fourth branchial groove. Failure of complete descent leaves the superior portion as lingual, sublingual or suprahyoid thyroids. The developing hyoid, by its entanglement with the thyroid may cause the central part to string out into a pyramidial lobe. The midline cysts in this region are due to the thyroid's drawing embryonic mucosa into an anomalous situation.

The thymus gland forms in two buds in the third groove and in its descent may draw a portion of the thyroid into a substernal position, as an accessory or aberrant thyroid.

The thyroid gland, weighing from an ounce to one and one-half ounces in the healthy adult, rests on either side of the trachea to which it is firmly attached. It is alveolar in structure and is lined with columnar cells. Over secretion is shown by an increase of cells (parenchyma.) The quantity of colloid shows, to a degree,

*Abstract of address of guest of honor at the 46th annual meeting of the Michigan State Medical Society Detroit, September 27, 28, 1911.

the activity, or lack of it, in the vesicles. When in excess, it means simple or colloid goiter as retention cysts, and in great quantities it may, by pressure, destroy the secreting cells. The area of arterial supply to the thyroid is approximately that from the circle of Willis to the brain.

The thyroid gland is found in all animals, and its study in them has thrown considerable light upon the subject in general. The young of animals, without this gland, fail to develop and are called cretins.

The simple, watery, colloid goiters of adolescence are probably physiological, to a degree with the sex development. The goiters of this period are responsive to medical treatment, seldom requiring operative relief.

The glands of the body are normally over-sized so that they may respond to excessive demands, or still be able to secrete in sufficient amounts should they be partially impaired at birth, or by disease.

The four epithelial bodies or parathyroids, although very small, are to be considered as a part of the thyroid group. They are located behind the thyroid, developing in the third and fourth grooves of the embryo. They are apparently often injured at birth by hemorrhage, yet seldom develop tumors in later life. When operating, these glands should be preserved to prevent tetany.

Hydatid cysts, tuberculosis and malignancy, both carcinoma and sarcoma, are occasionally seen.

Morgagni's disease, Flajani's disease, Parry's disease, Grave's disease, Basedow's disease, exophthalmic goiter, etc., are merely terms to describe a group of irregular symptoms. Moebius' disease would be a better term since Moebius first suggested, in 1886, that the disease was caused by thyroid change and secretion. Hyperthyroidism seems a reasonable term. It is a condition which can be present without sickness, yet which may become essentially toxic and cause death as a primary or chronic condition.

The medical treatment of the disease for the past 100 years has made little impression on the medical profession the world over. All forms of treatment, climatic, rest, internal and external medication, have been and are still employed by men who are contemporaneous with the older period of medicine, that is, before we had any pathologic entity or knowledge of the real changes in the gland.

The early operation of ligation cures many cases. Early as well as advanced cases can be cured by partial thyroidectomy. Very late cases, with degeneration of the heart, kidney, and liver, can be improved but not completely cured by partial thyroidectomy. The mortality in these cases will vary from 1 to 4 per cent. Combined operations are often indicated in bad cases; first ligating one or both superior vessel areas, and, later, doing a partial thyroidectomy.

Local anesthesia is indicated in most ligations. Local or combined, or straight ether anesthesia, are the methods used for thyroidectomies, according to the preference or experience of the individual operator.

In 900 operations performed on the thryoid in St. Mary's Hospital during the first ten months of 1911, the mortality was 1 per cent.

THE CHOICE OF OPERATION FOR THE RELIEF OF PROSTATIC DYSURIA AND THE PRELIMINARY TREATMENT INDICATED.*

PAUL M. PILCHER, A. M., M. D.
Brooklyn, N. Y.

In reviewing the literature of prostatectomy, it is interesting to note that among the different methods of attacking the prostate that have been practiced by different surgeons, practically equally good results are reported by most diverse methods when used by men who have become specially skilled in their application. The great relative frequency of obstructive prostatic dysuria, and the general recognition of the possibilities of operative relief, will compel the frequent attempt on the part of the general surgeon to supply it, "So that the question is no longer what is possible in the hands of the specially expert, but what, in the light of our present knowledge of the anatomical relations and the pathological changes of the prostate gland will, in the hands of the average surgeon, most certainly and safely, wholly and permanently, relieve the obstructive dysuria that the prostatic disease has produced." (L. S. Pilcher).

Any careful surgeon will probably have a considerable series of favorable cases without a death, but, sooner or later, he will meet with cases which demand surgical relief and, despite the skill of the physician, terminate fatally, so that we must content ourselves with recovery in from 90% to 95% of our cases. This is, indeed, a magnificent record, when we realize that the disease affects chiefly men between the ages of 65 and 80, and the disease, if not relieved by surgical operation, would not only condemn the unfortunate owner of the prostate to a miserable and filthy invalidism, but most certainly, in a relatively short period of time, would bring about the death of the patient.

Sometimes I fear that the general practitioner is still swayed in his judgment by his experiences of a previous decade, but let me assure him that the advances made in this branch of surgery have been among the most tangible and brilliant, not only in the relief of the urinary obstruction, but also in bringing about permanent relief from the mental and physical degenerations associated with chronic prostatism. It is not alone the urinary obstruction which must be considered in these patients but also that which, to my mind, is equally important, the rehabilitation of the patient's self-respect, the rejuvenation of one prematurely aged, and the rekindling of a mind clouded by the incomplete elimination of toxic products, disordered by the constant call for relief from his bladder, and degraded and isolated from intellectual intercourse and association with his fellows on account of the unpleasant odor which clings to his clothing, his irritable temper, and the constant or frequent desire to urinate.

If the patient survives his operation, the mental relief is sure to follow. As to the complete and permanent cure of his dysuria, we have found that in the great majority of cases that have been subjected

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

to total prostatectomy, the ability to empty the bladder spontaneously has been restored and has been maintained permanently, so that the catheter has been no longer necessary. In these cases there is but little, if any, residual urine, and the quality of the urine has become fairly normal. In a very large proportion of the remaining cases a marked improvement has resulted; the amount of residual urine has decreased, the intensity of the cystitis has diminished, and the frequency of catheterism has been lessened, and the facility of passing the instrument has been increased.

As to catheterism we grant that, in many instances, the catheter is well borne for prolonged periods, but even in the cases which are most resistent, cystitis sooner or later develops and chronic prostatism follows.

CHOICE OF OPERATION.

We still recognize the three distinct types of diseased prostate, i. e., the massive, soft, adenomatous gland; the relatively small contracted hard prostate; and the mixed type. Formerly our judgment as to the character of operation to be selected depended largely upon the type of prostate with which we are dealing. As our understanding of the various pathological conditions becomes more enlightened, we find that the type of prostate is not so reliable a guide as other factors to be enumerated later.

Choice of Operation.—Perineal prostatectomy is a more difficult operation and should be performed by one possessing special surgical ability and special training. It, however, entails less post-operative discomfort to the patient, the wounds heal more quickly, and normal urination is established sooner than in the suprapubic operation. It is to be preferred in the younger patients where a more prolonged operation with the patient lying with his head lower than his body is not dangerous.

Suprapubic prostatectomy is indicated in all cases of massive adenomatous hypertrophy of the prostate, irrespective of the age of the patient. It is, by far, the safer and easier operation for a surgeon of less experience. The technical part of the work is more easily accomplished, the prostate is more surely removed in its entirety, and there are fewer chances of wounding adjacent tissues. I believe that with sufficient care the possibilities of preserving the ejaculatory ducts and preventing impotency are just as feasible here as in the perineal operation. As to the safety of the operation in a given case, the suprapubic operation is as safe as the perineal operation in any case, and can, in some cases, be safely done as a two stage operation, following previous cystotomy, where the perineal operation would unquestionably be fatal.

More important, however, than the choice of the type of operation is the preliminary treatment of the patient. Prostatectomy is never an emergency operation and never should be undertaken without due deliberation and careful examination. It is especially important to know the amount, specific gravity, and character of the urine secreted. From this we can judge somewhat of the condition of the kidney and bladder if cystoscopy is not feasible. In my experience cystoscopy, in these cases, is desirable but not absolutely necessary; it may be harmful. The next important factor to know is the amount of residual urine, and the only way of determining that is by passing a catheter, after the patient has passed as much urine as possible immediately preceding the instrumentation.

The character and size of the obstructing prostate can best be determined by rectal examination, combined with cystoscopic

exploration of the bladder. The surgeon must, at all times, take into consideration the general condition of the patient, his arteries and his heart.

Of prime importance is the condition of the patient's kidneys. The enucleation of the prostate may be faultlessly accomplished from a technical point of view and yet death result from uremia, simply because too little attention was given to the condition of the kidneys before the operation. In this we have as our guides, chiefly the amount and specific gravity of the urine and not its albumin content and the various functional renal tests of which the P. S. T. test, i. e., the Phenol Sulphone Phthalein, is the most useful for our purposes.

it. It is dangerous to completely empty a bladder which has been considerably distended for months. It will sometimes be followed by intravesical hemorrhage and considerable shock and prostration, and may defeat the purpose of the instrumentation. Gradually, the bladder is completely emptied, and, after three or four days, a continuous drainage of the bladder may be employed. In the cases of polyuria with a low specific gravity, it will be found that within 24 to 48 hours the amount of urine secreted in a day will materially decrease and its specific gravity correspondingly increase. With the permanent catheter in place, it is a simple matter to test the function of the kidney. We use, preferably, the P. S. T. test, phenol sul-

The Pilcher Observation Cystoscope

The instrument was constructed for use especially in cases of obstruction or irregularity in the posterior urethra. It was found that a sound often times would pass more easily into a bladder than a cystoscope with a more angulated beak. Therefore, this instrument was constructed, and instead of having an angulated beak, it was constructed with a smooth curve, similar to the sound.

It consists of a sheath and removable telescope fitted with a correct vision brilliant lens system, and has proven very satisfactory.

The renal function is very considerably influenced by the amount of residual urine present in the bladder, therefore, the first indication is to regularly empty the bladder completely, and *keep* it empty long enough to allow the kidneys to readjust themselves before the shock of an operaton is added. This is best accomplished by the introduction of a permanent catheter. A catheter of about number 24 of the French scale is inserted until its eye is well within the bladder and fastened in place. A cork or clamp closes the outer end of the catheter. If there is a large amount of residual urine, the bladder should be partially emptied every two or three hours, or more frequently if the irritability of the bladder demands

phone phthalein, and when we find the renal function is sufficiently re-established, we operate. This may take only three or four days or even three weeks before the proper moment arrives, but it is worth waiting for. There are few of us, I am sure, who have not regretted hasty operations on these patients. The family, attending physician, and patient, are all clamoring for something to be done, and we are often thrown off the balance which our better judgment tells us we should maintain.

The early stage of prostatic urinary obstruction in which there is little or no cystitis, a moderately increased frequency of urination, and only three or four ounces of residual urine does not call for any

special surgical judgment to handle. A careful operation, either perineal or suprapubic, in the hands of an experienced surgeon, will usually be successful.

There are, however, the more advanced and complicated cases, which must be handled very delicately, with the greatest attention to details, lest the entire human fabric be ruined by a sudden undue stress being thrown upon one of its supporting timbers, which have not been braced sufficiently to withstand the shock.

Class 1. Patients with a large amount of residual urine, who are passing 70 to over 100 ounces of urine of low specific gravity in twenty-four hours. Their rest at night is disturbed every thirty to forty-five minutes. In the treatment of these cases an indwelling catheter is used to gradually reduce the amount of residual urine, as previously described. When it is not possible to introduce a catheter or evacuator, the patient should be kept as quiet as possible, preferably spending most of his time in bed. The bowels are moved freely by salines, and the amount of liquid given is reduced to a minimum. In this way the amount of urine secreted is considerably diminished. Then, at a favorable moment, a suprapubic cystotomy should be done under local anesthesia, and bladder drainage established. No attempt should be made at this time to remove the prostate. Two weeks of this drainage should usually elapse before it is best to proceed to the removal of the prostate.

Class 2. Patients with very frequent urination, or painful dribbling of urine, due to partial retention, complicated by a foul cystitis, with or without a calculus. Such cases, in my estimation, are best handled as in Class 1, by bladder drainage for, at least, one week either by catheter or suprapubic cystotomy, and then, depending on the special training and expertness of the operator, followed by a perineal or suprapubic prostatectomy. In all cases where a previous cystotomy has been done, a suprapubic enucleation can be accomplished most quickly and with the least amount of shock to the patient. I have, personally, removed a large prostate through a previously made cystotomy opening, in two and a half minutes.

Class 3. Patients who have suffered a long time from urinary obstruction due to prostatic enlargement, and are already suffering from uremic symptoms and suppression of urine.

Some of these are beyond help, while others may be brought safely to operation and recovery. Of the former I have the record of a patient, 97 years of age, whom I called to see in consultation. He was suffering from partial suppression and complete retention of urine, I advised regular catheterism and frequent flushings of the bladder with hot saline solution. He had temporary relief but died, uremic, within a week. It is this class in which we must expect some mortality. If we refused to operate upon them, of course, our 5 or 10% mortality record would be reduced to 2 or 5%. But even in this class, many brilliant results are secured. Here preliminary treatment is absolutely essential and may last three or four weeks before it is safe to operate. Our routine in these cases is:

An indwelling catheter and hot irrigations of the bladder for two weeks, or more.

A suprapubic cystotomy at the most opportune moment, under local anesthesia, followed in a week or two, by a suprapubic enucleation and free drainage of the bladder.

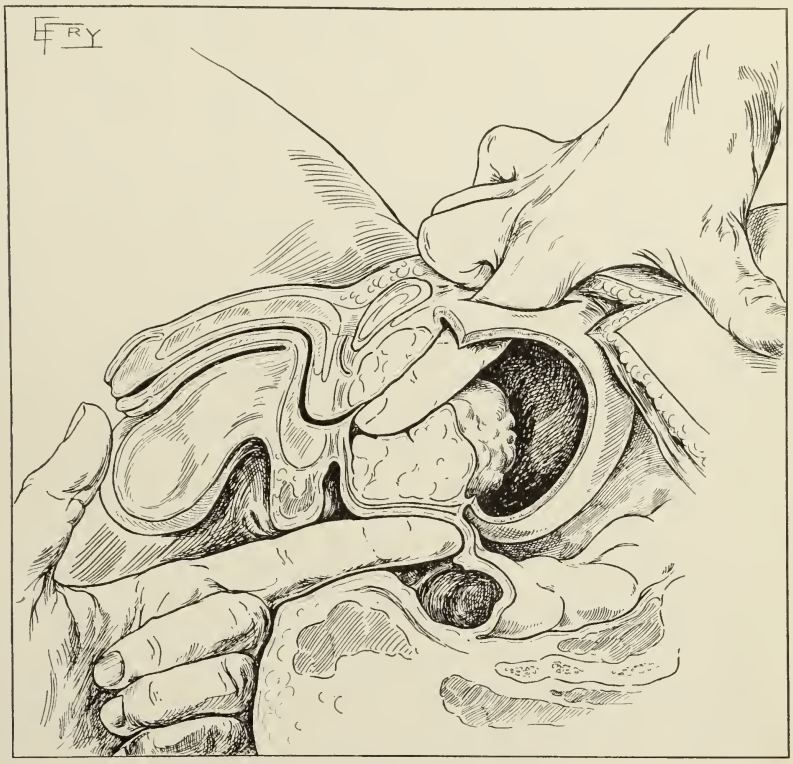
TECHNIC OF THE OPERATION

Perineal prostatectomy has been so carefully described by other surgeons, and our own modifications in the technic which have been published elsewhere are of such minor importance, that time will not be taken to review this form of operation.

Suprapubic cystotomy is performed, usually, under local anesthesia. The operation is started with the bladder empty. After the skin incision has been made, and the recti muscles separated and retracted, the bladder is filled with either sterile fluid or air, through the permanent catheter. As the bladder is seen bulging into the wound, two silverized catgut sutures are inserted to engage and hold the bladder. They mark the high point of the fundus which is to be incised, and serve to steady the bladder while it is being opened. They serve, further, to fasten the drainage tube in place and close the bladder tightly around it. Our experience has taught us

that closure of the sinus is more quickly secured if the opening in the bladder is high up on the fundus. Squire's point* is well taken when he says that "The bladder incision should be made high up on the fundus, close to the peritoneal reflection, for when the patient is in the upright position, the beginning of the suprapubic sinus is in a less dependent position." Therefore, the tendency to urinary leakage is less marked.

If the prostatectomy is not to be completed at this time, a large rubber drainage tube is inserted, with its fenestrated end in the bladder, the bladder wall is snugly closed around it, using the silverized catgut sutures previously inserted, the suprapubic wound is closed around the tube, and, if desired, the tube is connected with a suitable urinal. If a permanent catheter has been previously inserted, it is allowed to remain in place. Through the suprapubic tube and catheter, the bladder may be treated if deemed necessary, but, as a rule, we find that irrigations after cystotomy are not indicated. The patient is allowed up in a day or two.



Supra-Pubic Prostatectomy

The figure illustrates the removal of the prostrate by the supra-pubic method. The finger has been thrust into the prostatic urethra and enucleation is begun at the point furthest from the bladder. The section shows the finger breaking through the lateral inferior wall of the urethra. At this point it is easier to find the proper line of cleavage between the prostate and its capsule. The finger is swept from side to side, and it will be found that the portion which seems to be above the finger in the illustration, is part of the lateral mass and is easily enucleated with it. After the mass of prostate, including the median enlargement has been freed from its fascia and capsule it is turned out into the bladder and easily removed. The illustration shows how the prostate is supported by a finger in the rectum and pushed up nearer the enucleating finger.

Suprapubic prostatectomy is a compara-

*Boston Medical and Surgical Journal, Vol. 164, No. 26, p. 911.

tively simple operation. A cystotomy is performed as described above. If a suprapubic opening exists as a result of a former cystotomy the enucleation of the prostate is a matter of only a few minutes. Certain points are essential to a rapid, complete and satisfactory operation. The stretched and paralyzed sphincter of the bladder should be left as nearly intact as possible, the plexus of veins surrounding the neck of the bladder, lying beneath the mucous membrane, should be avoided, and the proper line of cleavage between the adenomatous, or fibro-adenomatous tissue, and its confining sheath and capsule should be found.

To accomplish this, the enucleation should be started within the prostatic urethra itself, and not by making a puncture through the bladder mucous membrane. Through the suprapubic opening, the finger is passed into the bladder and then is introduced into the prostatic urethra. Squire, who strongly advocates this operation, seeks the line of cleavage through the roof of the prostatic urethra. Personally, I have found it just as satisfactory to enter the tip of the finger anywhere except where the ejaculatory ducts enter; the main point being to have the finger outside the bladder. Aided by a finger in the rectum, the enucleation of the distorted prostatic mass is quickly accomplished and, when loosened up, may be turned out into the bladder and removed. The loosened and somewhat torn pieces of mucous membrane which are left behind, fall into the cavity which is left, and, later, undoubtedly help in reforming a normally functionating vesical outlet.

After removing the prostate and checking the hemorrhage, if there is any to speak of, the suprapubic opening is closed around a fairly large rubber drainage tube. The permanent catheter still remains in place in the uretha. Both the suprapubic tube and the urethral catheter are connected by rubber tubing with urinals. The bladder may be irrigated through either tube. The suprapubic tube is removed after twenty-four hours and the opening allowed to close if it will. The patient may be allowed up at any time.

In review of my own work and that of others, I feel that every surgeon who attempts this work should outline some definite line of attack and perfect himself in that method; not trying this operation and then another, never mastering the really important details of any.

Patience, preparation, careful observation, attention to the smallest details, the preliminary drainage of the bladder, clean cut, rapid enucleation,—these are the essentials necessary to success in these cases.

145 Gates Ave.

Discussion

I. D. Loree, Ann Arbor: I wish to repeat a statement that I made two years ago, at the annual meeting of this society, in which I said: "The choice of operation for senile hypertrophy of the prostate has no influence upon the mortality." In the choice of operation, two things must be considered; viz., the mortality and postoperative complications. Such complications oftenest encountered are permanent fistula and incontenence, either one of which is very disagreeable, not only to the patient, but to the operator. During the last two years, I have performed both the perineal and suprapubic operations, I have had fewer postoperative complications by the latter route, and I think we should be guided in our choice of operation by the one that will give our patient the greatest comfort.

There are both good and bad things to be said for each operation. The old idea that you may tear into the bowel, when employing the perineal route, is no more likely than that you should open the general peritoneal cavity when operating from above. If we publish our failures, as

well as our successful results, we must admit an occasional tearing of the peritoneum, when drawing up the fold above the Space of Retzius. In the last year, I have operated on twenty cases of senile hypertrophy, out of which I had one death, a result of general peritonitis.

There is no question but that we are saving a great many of these old men by more careful preparation and postoperative treatment. A retaining catheter should be employed, with frequent irrigation of the bladder, preliminary to operative intervention. Acidulated solutions are employed with much advantage where there is much cystitis. This is especially so when the wound becomes coated with urinary deposits after operation.

The great trouble in the past has been that this class of patients remain in the hospital too long, and, it seems to me, our efforts in the future must be directed toward obtaining quicker healing and thereby shortening their hospital life.

A. E. HALSTEAD, Chicago: My choice of operation in prostatectomy has been largely the suprapubic operation. I suppose, in about eighty per cent of the cases of hypertrophy of the prostate, I have found it better to operate by the suprapubic method. I follow the technic first described by Moynihan, making a two-inch suprapubic opening, which takes, at most, seven or eight minutes. The prostate is then removed through the bladder. I introduce the left hand into the rectum, thus holding the prostate steady, while, with the other hand in the bladder, the growth is quickly enucleated. It can generally be removed in from two to five minutes, depending upon the character of the growth. The whole operation consumes fifteen or eighteen minutes. If the operation is properly carried out there is practically no hemorrhage. I have never had a severe hemorrhage. By carefully introducing the index finger within the capsule of the gland, the prostatic veins will not be injured, and there will be no hemorrhage afterwards. My mortality in suprapubic operations has been practically *nil.* Of course, I select the patient. I do not operate on every case of prostate that I have, by the suprapubic method. Some are more easily reached by the perineal route. I also prepare the patient carefully, and then do the operation best suited for that case.

I did not hear all of Dr. Pilcher's paper as to the after-treatment. But I keep the drainage in the bladder for more than twenty-four hours. I keep the bladder practically empty, without disturbing the patient, by use of the apparatus devised by Bremerman, of Chicago.

*DR. MARTIN: I want to suggest to all who contemplate doing prostatectomy, that the best way to work out your technique is to practice on a cadaver. This is not always possible for the surgeon in small towns, as they cannot always get a cadaver when they want one, but whenever a a man gets an opportunity to make a postmortem on a male subject he ought not to neglect the opportunity. Oftentimes arrangements can be made with the undertaker, who is also a coroner, to work on some subject from the county home. There is one point I would like to emphasize. Dr. Pilcher said he did not find it necessary to do much in irrigating of the bladder after the operation. My experience has been that no matter what operation is used, the bladder should be washed frequently and thoroughly after every operation on the prostate.

F. W. ROBBINS, Detroit: I think the mortality depends much upon the preliminary and upon the after-treatment; in fact, that is the most important part of the whole business—more important than the operation. And that has a bearing on the paper read by Dr. Tibbals in the medical section yesterday morning. Dr. Pilcher, in line with most urinary surgeons, spoke strongly in favor of cystoscopy as a preliminary to operation, but for the life of me I cannot see the point. If you have an enlarged prostate and decide to remove it by the suprapubic operation, I cannot see the use of irritating the uretha as a preliminary measure. But as it is so strongly advocated by so many good men there must be something in it, or some reason for it. I do think there is something to consider besides simply the enlarged prostate. There is such a thing as making a diagnosis between one enlarged prostate and another, and if I find an enlarged prostate in a patient or friend, I want to know what kind of a prostate that is, and how easy it is going to come out. I believe there is a large proportion of prostates that are cancerous, and they are much more liable to be followed by hemorrhage, and the mortality increased. It has been reported that twenty per cent of hyperprostates are cancerous.

C. D. BROOKS, Detroit: One of the speakers said it was well to be qualified by experience. I think we should emphasize that point. I believe he is correct, and he will probably

*Address and initials not obtained.—Editor.

agree with me, that no one should attempt to operate on a prostate of an old man, or a young man, who has not had a great deal of experience in assisting surgeons. I do not believe that one or two years experience is enough. I do not think there is anything more pitiful than embryonic surgery operating upon prostates.

I think a surgeon should have competent assistance. These operations can nearly always be performed under nitrous oxygen gas and oxygen.

We have a large number of cases and with a fairly low mortality, scarcely any except the cancerous cases, and secondary renal complications. We do not believe in irritating the bladder except in unusual cases. The other gentlemen may have better results with irrigation, but we do not irrigate, and our cases appear to get along very well if left alone.

PAUL M. PILCHER, closing: In answering some of the questions raised, I wish to state, briefly, that I prefer to use a permanent catheter in the uretha to secure a constant drainage of the bladder. This allows the suprapubic drain to be removed earlier. The permanent catheter remains in the urethra five or six days.

As to the use of irrigation after prostatectomy, I have not found any advantage in it. Previous to the operation, it is indicated in order to secure as healthy a condition of the mucous membrane as possible. Postoperatively, it is indicated only to increase the secretion from the kidney. I believe that no operation should be undertaken for prostatectomy without a systematic examination of the patient, and I believe, further, that fewer mistakes and fewer incomplete operations will be done if the suprapubic route is chosen for the removal of the gland.

PROSTATIC SURGERY

L. B. Wilson and B. F. McGrath, Rochester Minn., (*Journal A. M. A.*, November 11), describe in detail the anatomy and physiology of the prostate gland and also its infections. They give the results of a study of 468 cases, seven of which were tuberculous. They question the probability of this being hereditary, though it has been suggested. It occurs mostly in young adults and it may be the only organ of the body secondarily infected. The ordinary picture of acute prostatitis in the text-books, they say, is misleading, as it gives the symptoms of the severe parenchymatous form, whereas both the lighter forms, the catarrhal and the follicular, are much more frequent. Gonorrhea is the most common cause of all the forms. As regards hypertrophy, all of their patients were over 50 years of age and the majority over 60. In more than half their cases there was definite evidence of prior chronic inflammation, thus agreeing with Albarran's views. The greater part of the bladder troubles of old people are due more to exacerbations of chronic prostatitis than to hypertrophy. They describe the stages as observed in hypertrophy in their cases without offering special suggestions as to its origin. Atrophy of the organ has multiple and quite different causes. As regards changes subsequent to castration, we must distinguish between those before and after puberty. In the former case there is an inhibition of growth not an atrophy. It is doubtful, they think, whether true atrophy ever results after castration in existing hypertrophy, though it can occur after operations. Associated with exhausting diseases it is found in connection with atrophy of all the body structures. Stricture is a common cause of mechanical atrophy of the organ, caused by the pressure of the stagnating urine. Senile atrophy is to be considered as prostatic atrophy in the narrower sense, since it can occur in advanced age without any cause as yet determined. The prostate may become apparently completely destroyed in suppurative conditions from gonorrhea, tuberculosis, etc., but Frisch considers it incorrect to call this condition atrophy. Concretions are not so uncommon and are most numerous in the aged. They may set up no symptoms or may cause chronic inflammation and suppuration. In conclusion, the authors discuss the malignant growths in the prostate which occurred in seventy-nine of their cases. They think such growths are those most likely to escape observation, though usually one can be moderately certain by gross inspection. It has been their custom to make frozen sections and have them examined during the operations. Their object in this rather extensive study of the subject has been to stimulate interest on the part of physicians, many of whom seem to be almost or quite neglectful of its existence.

THE GENERAL USE OF FAT IN THE DIET*

JAMES E. DAVIS, M. D.
Detroit, Michigan.

"The modern point of view is that the fat of the body originates partly from the fat of the food, particularly in carnivora, and partly from the carbohydrates of the food, especially in herbivora, in whose diet this foodstuff forms such a large part. Whether, under any circumstances, the protein food may also serve as a source of body fat is still an open question."[1]

"Experience seems to show that carnivorous animals can be fattened more easily on a fat diet, herbivora on a carbohydrate diet. In animals like ourselves, there is reason to believe that the carbohydrates are more easily and more quickly destroyed in the body than the fats, and that therefore, the latter may be more readily deposited in the tissues, although an excess of carbohydrate beyond the actual needs of the body will also be preserved in the form of fat or glycogen."[2]

From the foregoing summary by Howell of our present knowledge concerning the source of body fat, it can be conceded that fat in the diet is not a necessity for the deposition of fat in the tissues. However, when a deposition of fat is desirable, a liberal fat content in the food offers the best source of its supply.

The general use of fat in the diet merits a careful consideration of, first, the individual, his habits of living, his requirements, his digestion and metabolism; second, the kind of fat available, and third, the purpose for which it is given. The individual requirement in a diet is a significant problem that cannot often be settled by comparison only. The personal co-efficient of the prescriber is often his undoing. The best dietician is he who is emancipated from personal prejudice and weighs each case with all the consideration involved.

The individual palate is a thing of very great variety. The Hindoo eats rice flavored with curry. The Spaniard likes onions with his bread. The Frenchman uses olive oil as a relish. The Icelander is fond of fish oil served with his meat.

Since Pavlov has demonstrated that food passing out from the œsophagus by way of a fistula can excite free enzymic secretion, we know that psychic suggestion is a powerful means towards a good digestion. It is not strange, then, to find the odor and taste of fat bacon, fresh sweet butter, fish oil, or anything else eatable, appealing differently to the appetite.

The habit of out-door living with adequate exercise, will go far towards increasing a natural demand for a larger quantity of fat consumption.

In selecting the fats of our dietary, we ordinarily succeed best with those having the lowest melting point, for these are easiest of digestion. But the individual preference should be first regarded.

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911

1. Howell—Text Book of Physiology, page 877.
2. Ibid.

It is the usual experience that the animal fats are better tolerated in heavy feedings which have to be carried on for a long time.

The melting points of the four most commonly used animal fats are given by Gouraud[3] as follows:

Mutton fat, 108°
Beef fat, 105°
Pork fat, 91°
Butter, 88°

The digestibility of these fats is easiest with those of lowest melting points, unless encased in a connective tissue membrane. Pork fat is harder to digest than mutton or beef, because of this encasement. Butter, if fresh, is the easiest to digest of the animal fats, and if we consider palatability, it is the best of all fats, either animal or vegetable.

Yet, butter contains more ferments and more bacteria than other fats, and, consequently, degenerates quicker. In order that butter shall be the most easily digested and most palatable of the fats, it must be fresh.

The melting point of olive oil is 35°, therefore it should be the best for the digestive tract. It is less liable to degenerative processes than any other edible fat. Yet, the problem of its palatability offsets its value below butter. However, skill upon the part of the cook may place olive oil in the dietary to the extent of its preferment above all other fats.

The disrepute of fats undoubtedly arises, in most instances, from the practice of serving them hot instead of cold. All fats are more digestible when cold. Pascault[4] says, "Hot melted butter is very hard to digest, because the water which separates the fat globules has been evaporated, thus rendering the attack on it by the digestive juices much more difficult."

The practice of cooking foods with a high percentage of fat admixture is inadvisable, for not only is the moisture separating the globules driven off, but encasement is made which increases the difficulties of digestion. This is particularly true of the products from the frying-pan. Sutherland[5] says, "When fat is overheated, irritating products are apt to be formed from it, such as acrolein, which causes the disagreeable smell from a badly extinguished candle."

This same author believes the frequent indigestibility of pastry is from the prevalent use of poor butter which, when subjected to heat, easily undergoes changes which cause indigestibility.

The butter or other fat to be added to food should be fresh and the smallest possible amount only, should be subjected to prolonged heat.

Not only palatability but digestibility are promoted when fats are served at low temperatures.

Fats are made more digestible in some instances by their combinations with starchy food. Butter or cream is mixed with a mealy potato and both the starch and the fat are made more palatable and digestible. "A suet, when made into a farinaceous pudding," says Thompson,[6] "becomes very much more digestible."

It is a reversible rule that a diet abundant in fat, necessitates the use of carbodydrates, or a diet rich in carbohydrate, necessitates the use of fat.

It is a very common commercial practice to add salt enough to butter to prevent rancidity. When this is done to the extent of more than 40 grains to the pound, or 2.5 grains to the ounce, the salt is to be regarded as an irritant to the kidneys.

The body obtains from its food, heat and work energy. Seventy-five per cent of

3. Gouraud—What Shall I Eat, page 141.
4. Pascault—Quoted by Gouraud in What Shall I Eat, page 142.
5. Sutherland—A System of Diet and Dietetics, page 12.
6. Thompson—Practical Dietetics, page 175.

the food is used in producing the heat units, while only twenty-five per cent is needed for work energy.

If the digestion, absorption and metabolism of the different foods involved a common and equal expenditure of energy, leaving only the problem—a definite amount of energy from a certain amount of food—and this energy product to be divided in proportions of three for heating purposes and one for working purposes, we could easily solve our problems in nutrition. But protein, for example, undergoes a very complicated change during its metabolism. Carbohydrates involve a metabolism which is, as yet, not fully understood, as we have observed from the enormous labor bestowed in attempting to understand diabetes mellitis.

In the digestion of protein, from 12% to 15% of the energy in the food is utilized by the digestive apparatus with carbohydrates about 8% and with fat, perhaps, slightly below 2%, and, according to Von Noorden,[7] a mixed diet uses 8%, of the energy incorporated in the food.

The general use of fat in the diet is most appreciated and most involved where the problem of undernutrition is presented, and this is one of the greatest problems of the human animal, because his complexity of life activities are such as to divert the natural inborn instinct of life preservation, which depends, among all forms of life, upon nutrition.

Man, in command of an abundant food supply, probably does not nourish himself as well as the lower animals placed in like favorable food environment.

The tremendous strain of civilization is telling upon nervous tissues, perhaps more on account of undernutrition than from an increased output of work energy.

The fact that food is easily obtainable and highly prepared obviates the necessity of the same degree of mental attitude toward this subject.

The very fact of the presence of abundant food of a very high nutritional value tends towards a carelessness in taking enough food for excellent nutrition.

The evolution of appetite, digestive apparatus and food, has been such that in this age of great refinement there is involved the necessity of two things, first, appropriate cooking, and second, a standard amount of food yielding definite caloric values. This food to be estimated in quantity and quality per pound of body weight.

If, in this part of the world, one desires a well-balanced diet, he finds it difficult to keep the protein content low enough and the fat high enough. The ease with which protein is palatably prepared and the difficulty of preparing fat, especially for those with indoor occupations, is well known. Yet, it is the indoor class who have most trouble with protein metabolism, and but little or no trouble with fat metabolism. This same class uses a diet usually excessive in carbohydrates and protein, and deficient in fat. The common result being carbohydrate indigestion and protein errors of metabolism, with a net result of undernutrition.

In witness of these facts, we have the enormous traffic in starch digestants and various antiprotein campaigns.

The essential nutritive value of fats is that they furnish energy to the body, and weight for weight more than double the units obtained from carbohydrate or protein.

Fat, in the diet of natural selection, is 8.3 per cent of the total food weight, but it furnishes 16 per cent of a day's total energy needs, hence it is economical.

The carbohydrate in the blood and in the liver is the emergency or instantaneous

7. Von Noorden—Inanition and Fattening Cures, page 75.

energy giver. The fat (chyle fat) in the blood remains there some considerable time, being slowly picked out by the tissues which can use it in their metabolic processes. Any excess is stored in adipose tissue as fat, to be drawn upon in case of need; the larger the supply of fat, the more effectively will the protein tissues be protected from destruction.[8]

Besides serving as a protein saver, fat is both protective and productive of body heat; it best prolongs a satisfied appetite, and has a negligible residue of water and carbon dioxide. It is only when fat ferments that molestation of the kidneys can occur from its end products.

The interesting question of fat therapy can only be mentioned in a few of its leading principles.

Fat being the greatest protection against the loss of caloric force, it is indicated whenever caloric losses are rapid and prolonged. I give the largest possible amounts of fat in the typhoid diet, with most gratifying results.

In nursing mothers who commence to lose weight and strength as the child becomes more vigorous, fat, in quantities as high as 250 gm. per diem, can be given with a liberal milk and starch diet, with most astonishing gains in strength and weight. In tuberculosis and diabetes, a food of high caloric value is of the utmost service. On account of the frequency of gastric troubles, 100 to 150 grams of fat per day will be the maximum quantity tolerated in tuberculosis.

In feeding diabetics, an important point is to be gained by playing a high fat content against the highest possible carbohydrate content in the presence of a low protein; by so doing an acidosis is attacked by means of the increased carbohydrate and the smuggled-in fat becomes a valuable protector of the endogenous protein.

An examination of the literature shows a great many writers advising against fats in gastric and intestinal diseases. This is a mistake, for properly used fats are here of great service. Von Noorden,[9] says, "Nowadays we are afraid of abundant fat feeding in gastric and intestinal diseases, only in cases suffering from true inflammatory processes about the stomach or the upper section of the intestine, or in cases in which disturbances of the fat absorption are definitely demonstrable."

Combe[10] gives fat with milk as an antiputrefactive.

A fat like olive oil, or butter, or cream, is of signal value in reducing gastric acidity. The work of Cowie and Munson[11] shows that oil lowered hydrochloric acid acidity from 36.4 to 22.4 and total acidity from 51.3 to 35.5. The test involved 310 meals and 170 controls.

In the great class of nervous diseases belonging particularly to the neurasthenic type where undernutrition is a significant bugbear, little, if anything, can be done for many of these individuals until a state of hypernutrition is attained. Here high fat feeding is indispensable.

In conclusion, it must be said no other food requires so careful an investigation of individual peculiarities in each patient as fat.

8. Howell—Text Book of Physiology, page 874.

9. Von Noorden—Inanition and Fattening Cures, page 89.

10. Combe—Auto-intoxication, page 244.

11. Lotz—Wisconsin Medical Journal, May 1911.

Discussion

A. W. Hewlett, Ann Arbor: What form of fat is given in large quantities?

Mary Williams, Bay City: I have been in the habit of giving a good deal of cream, but I always dilute it. I think to a half-cup of cream I always use a cup or a good half cup of boiling hot water. I have, for a good many years, used a good deal of cream, and it works well in that way. Very seldom do you get any bad digestion.

James E. Davis, closing: In reply to Doctor Hewlett's question, I might illustrate by a case I had last night. This patient, fifteen years ago, was living in Bulgaria, and in his particular part of the country, they had a great deal of fat to eat. I asked him what kind of fat. He said mutton and pork, and said that he dated his present stomach trouble from that time. He blamed all of his troubles in the last fifteen years to too much fat in his diet while he lived in Bulgaria. Inquiry as to his present diet showed a very great excess of carbohydrates. When I found that he was rather fond of olive oil and disgusted with other fats taken in excess, I naturally placed him upon the natural oil, beginning gradually, of course, and telling him to increase as rapidly as he could. By progressing in this manner a correctly balanced fat portion can be added to the diet. The point to be made first, is to find out the preference of the patient, and then begin gradually, selecting, if possible, the fat with the lowest melting point. Cream is an admirable form of fat; so also is butter, and if a person is fond of eating olive oil, this form of fat is to be preferred to the cream or butter.

One other point in the successful feeding of fats is, as I have already mentioned in my paper, to combine as much fat with the carbohydrate as is possible, being careful that we are not feeding, at the same time, an excessive amount of protein, or it is often better, when we intend to raise the fat content, to lower the proteid. I would say, lower the protein possibly to 75 or even down to 50 grammes per day, from the ordinary 100 or 115, or whatever it may be. In this way I think we can succeed, usually, in using very large quantities of fat where it is desired.

Doctor Williams, Bay City: I would like to ask if you do not find that olive oil passes through the intestine without being asborbed at all?

Doctor Davis: That is true. If you are using too large quantities of olive oil, you will, in some instances, have to use it in salads, using only a limited amount of the pure oil. One will find a very great difference in the amount of olive oil that can be digested after the patient has been on the olive oil for some time.

Dr. Williams; In taking olive oil on a salad, of course, a salad is usually a very indigestible concoction. Why isn't it better to take your olive oil in hot water, or something in the oil?

Doctor Davis: In regard to the salad, you must, of course, seek other menns of giving olive oil than by the use of salads, but salads with olive oil are not always hard to digest. A great many people can digest them very easily.

Doctor Williams: Why isn't it better to combine your vinegar or lemon juice with the olive oil.

Doctor Davis: Using the lemon juice or vinegar, I presume, is a convenient way of disguising the taste of the oil, but most individuals will prefer a salad mixture and will succeed best upon it.

Doctor Williams: Well, it would, I presume somewhat disguise the oil.

Doctor Davis: I think the question resolves itself into one: "How can the patient best take the fat you want to give him?" Ascertain this, then go ahead, and, if you find that it is necessary to disguise the fat by combining it with a carbohydrate, give it that way.

THE STATUS OF THE CARBOHYDRATES IN THE DIGESTION OF INFANCY.*

DAVID J. LEVY, M. D.,
Detroit, Mich.

Owing to the time limit imposed upon this paper, I shall confine my discussion to the role of the carbohydrates in the nutrition of the bottle-fed infant. From the least considered of the several elements entering into the infant's diet, the carbohydrate stands today, if not the most important, at least the most interesting of the infantile food ingredients. For years, based upon the teachings of Biedert, the proteid held front rank as the active factor in the nutritional disturbances of infancy, "curds, colic and constipation" forming the symptom complex of proteid indigestion. Followed the classical researches of Czerny and Keller on "milk food injury." This masterful study attacked the problem of digestive error, not from the standpoint of pathology, which has served to throw so little light on this phase of pediatrics, nor from the standpoint of bacteriology, which has served to place only a part of the responsibility for intestinal disease, but from the standpoint of metabolism. Their recognition of the increased elimination of alkalis, producing a relative acidosis, gave a new direction to pediatric investigation, and a series of chemical-clinical studies followed, which have quite altered our conception as to the etiology of intestinal disease. They called attention as well to the so-called "starch food injury," due to overfeeding with this form of carbohydrate, producing no single distinctive clinical symptom, such as the fat soap stool, but, to their minds, constituting a distinct clinical entity characterized by a soft brown acid stool, which showed the iodine reaction, fresh color of the skin with subsequent pallor, altered turgor, meteorism, stand still and loss of weight, etc., probably on the basis of nitrogen, chlorine and sodium hunger. Further research indicates that what Czerny and Keller saw is not a distinct single condition but comprises, in fact, several conditions. Finkelstein and his school took up the metabolism study and carried it towards its logical conclusion. L. F. Meyer took a series of infants not thriving on cow's milk. With carefully controlled technic, he fed one series of these on the curd of mother's milk suspended in a menstruum of cow whey; a paralallel series he fed on cow curd in a medium of human whey. The infants of the first series continued to do badly, those of the second went on to immediate recovery. This so-called "austausch experiment" served as a basis of a research which finally demonstrated the active principle operative for harm in artificial feeding to lie in the whey of cow's milk—the sugar, the salts and the whey medium itself. At this period, Finklestein and Meyer showed that by the gradual addition of sugar to an inactive base in the infant's feeding fever can be produced in the same general manner as the well known salt fever is brought about, form-

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911

ing the basis for Finkelstein's Alimentary Fever. These researches were crowned by a masterly clinical and chemical study, resulting in the recognition of alimentary intoxication. On the basis of a preceding intestinal or nutritional disorder—infection, dyspepsia, balance disturbance or alimentary decomposition—there occurs an intoxication of alimentary origin. The clinical symptoms of cholera infantum present themselves with the cardinal symptoms of collapse, disturbed sensorium, febrile temperature, marked fall in weight, toxic respiration, diarrhoea, rapid pulse, leucocytosis, albuminuria, cylindruria and glycosuria.

That this glycosuria is of alimentary origin is shown by the fact that on withdrawal of the food the fever immediately falls and the sugar disappears from the urine. If, at this point, sugar is added to the diet, the temperature and other symptoms recur and glycosuria again obtains. This, you will observe, is our cholera infantum, probably the result of deranged metabolism and the absorption, through damaged intestinal epithelium, of toxic acids of lower fatty or bacterial nature, the condition permitting or causing absorption being probably osmotic, enzymatic and bacterial in origin. It has been shown that concentrated sugar solutions increase the permeability of the bowel membrane to bacterial toxins.

A well recognized condition is that of dyspepsia, due to a variety of causes, among which sugar is important. With the nicety of a test tube experiment, one may take a healthy infant and by feeding him a sugar solution, characteristic dyspeptic diarrhoea can be produced. By feeding, at this stage, milk curd, the stool can forthwith be bound to a fat soap stool, and by returning to sugar solution, the dyspeptic stool is forthwith produced again and the experiment permits of control which excludes other causes.

We find here the explanation of certain of our long drawn out summer diarrhoeas and febrile conditions where actual enteritis does not exist, the early addition of untoward quantities of carbohydrate, i. e., sugar, to the convalescent diet, producing local dyspeptic symptoms, alimentary fever or actual systemic intoxication. As to the occurrence of dyspeptic stools, let it be understood that the carbohydrate medium furnishes the proper soil for bacterial fermentation. A different intestinal flora exists in the intestine, under a carbohydrate regimen than under a proteid one; the latter, in fact, acts antagonistically to the former.

It is now known that the infant is born with its starch splitting enzyme already formed. Whether or not this exists in a useable form we do not know and, practically, it is well to avoid the addition of starch to the infant's diet until after the third month, although some authors recommend this as early as the third to the sixth week. This fact is emphasized, owing to the not unimportant value in infant feeding, of mixed carbohydrates. On somewhat empirical and unproven theoretical grounds, we have employed barley water, oatmeal water, etc., as diluent in milk mixtures.

The fact remains that the infant enjoys better intestinal digestion and grows more readily on the addition of a starch to the already employed sugar. Ultimately, the starch probably becomes sugar and is, as such, absorbed and assimilated. It has been the experience of all of us that many an infant does better on a maltose dextrin than on sugar alone. A most useful procedure in the case of a child that is receiving its quantitative and qualitative food requirement and refuses to continue to gain in weight, or reacts with constipation, is to add 10 grams of ordinary wheat

flour to the day's feeding. The almost specific effect of Keller's malt soup in milk food injury, or balance disturbance, is, no doubt, due to maltose plus flour. The very practical and successful Holland buttermilk diet contains sugar and flour, and successful skimmed milk feeding is due to high sugar and proteid and low fat.

As to the choice of sugars, we may profitably limit ourselves to lactose and maltose. Lactose has fallen, of late, into a certain, probably undeserved, disrepute. Certain it is, however, that it leads more readily to fermentation disturbances than does maltose, produces glycosuria after much smaller doses than does the latter, and more frequently produces sugar fever. Saccharose is permissable. Pure maltose, on account of its cost, is impractical. Maltose dextrin is today, probably, our best sugar and, no doubt, owes part of its superiority to the contained dextrin. Lactose may be used with impunity in the case of a well child but maltose is the sugar of choice in infants with alimentary derangement.

The role of the carbohydrate in metabolism is today only fairly well understood. Proteid and fat are, without a doubt, conserved through carbohydrate ingestion. By proper carbohydrate addition, one can always produce an increase in weight. Given an indifferent medium, (say albumin milk), carefully controlling all other factors, with the addition of one per cent of sugar, a definite increase in weight occurs, followed by a weight stand-still. At this point, the addition of another one per cent is followed by a proportionate increase, and so on, in step-like ascent, up to the addition of five per cent, which is the average maximum addition employed. At this point, as before indicated, one per cent of flour produces another rise. This increase is explainable through the retention of water and subsequent fat formation. The water retention is, no doubt, due, in part, to the fact that glycogen is stored up in the tissues with two or three times its volume of water. Within limitations, the greater the percentage of sugar in the food, the greater the tendency to fat formation in the body. But it is only in the presence of undisturbed carbohydrate metabolism that fat is burned to its end products of CO_2 and water. Otherwise intermediate bodies present themselves (oxybutyric acid, diacetic acid, acetone) and acidosis results.

This, again, is shown by the increased NH_4 output. Diminished nitrogen excretion evidences the conservation by the carbohydrate of the proteid.

The carbohydrate as well plays a role in the body temperature production. As before indicated, over-feeding with sugar produces an alimentary fever, whereas with deficient carbohydrate, subnormal temperature exists, as in alimentary decomposition.

Untoward carbohydrate feeding may be productive of the so-called starch food injury, dyspepsia, intoxication and alimentary decomposition. The relationship of carbohydrate to rickets and scurvy is not understood but probably exists. A relationship exists to the spasmophilic diathesis. The child with convulsive, eclamptic, or tetanic tendency, with recurrence of spasms on the exhibition of as much as a teaspoonful of milk, or its active element, whey, is today placed on a temporary diet of starch or flour solution with disappearance of the symptoms. A diet over rich in carbohydrate often makes an apparently fat baby, which, on the occurrence of an infection or acute intestinal disorder reacts with immediate and marked loss of weight, as in the so-called cashiered decomposition.

The carbohydrate, as is evident, is absolutely indispensable to proper body

metabolism. What the minimum carbohydrate requirement is has not yet been determined, but the absolute essentiality of this ingredient to growth—water retention, proteid and fat conservation—and to body temperature production is evident. The role played by the medium in which the carbohydrate is administered, the question of concentration and the inter-relationship and inter-dependence of proteid, fat, carbohydrate, salts, and the menstruum itself are still beyond definite understanding. But the foregoing serves to indicate the present day status of the carbohydrates so far as they affect practical pediatrics.

513 Washinton Arcade.

Discussion

Collins H. Johnson, Grand Rapids: Mr. Chairman, I have been very much interested in Doctor Levy's paper, because we all have more or less babies to feed. We all have to use what, apparently, is a foreign material in our infant food, and the first objection that usually comes up when we think of feeding a baby with carbohydrate is, there is no starch in the mother's milk, therefore, why in the baby's food. Mother's milk is somewhat different from cow's milk. When we dilute cow's milk, as we have to do, in order to bring the cow's proteid down to a condition that a child will digest, we are compelled to add something to it, and that something, for two or three reasons, is a carbohydrate. In the first place, we think that we ought to give the child the same amount of sugar that the mother's milk contains, and, in the next place, we often have to do more than that. The doctor stated that the various forms or carbohydrate used were milk sugar, lactose, and maltose. A great many men still use milk sugar, but, for several reasons, a great many men are giving it up, largely for the reason that the doctor gives, that it is more fermentable. I think the reason that maltose is used mostly now (which he spoke of) is because it is less fermentable than the other forms, and because a larger amount of it can be given than the other forms of sugar. It is more assimilable. You have got to add, perhaps, a large per cent of sugar to the food in order to get the necessary number of calories, and it is found that maltose can be added in larger per cent than any other form of carbohydrate. As the doctor stated, Doctor Finkelstein has worked out the reason why carbohydrates give trouble, and why fats give trouble. I do not think he recognizes the importance of fat diarrhoea; and the fact that it comes from dyspepsia. Diarrhea in a child that some of us might call fat diarrhea, I would still classify along with his carbohydrate or his sugar dyspepsia, and he attributes them all to the effects of salt on the intestinal epithelium. He admitted to me that his whole system was founded on theory. No pathological examination had ever proven the correctness of his theory that the intestinal epithelium is so injured by the salt of cow's milk that it is rendered unable to absorb carbohydrates in the usual amount. Primarily, he lays the trouble to the salt; and as Doctor Levy stated, he has many times produced cholera infantum by giving the child six-tenths of one per cent of salt, and then, after the intestinal epithelium has been injured by the cow's milk, after the experiments were made which the doctor spoke of, of coagulating cow's milk with whey, and giving one child the coagulum from the cow's milk and the liquid from the mother, and then reversing that problem, one would be made ill and the other would go on to recovery. In that way, he thinks he has proven his theory that the real damage is done by the salt in the cow's milk. It is interesting to see how the pendulum is swinging from bacteriology to chemistry every day. You hear bacteriology spoken of very little in the intestinal conditions of children. I remember some years ago when Keating's Encyclopedia came out. The article on summer diarrhoea was written by Doctor Vaughan; and I said to Doctor Vaughan one day: "How under the sun did they come to select you to write the article on summer complaints in Keating's Encyclopedia; you, not a children's specialist, but a bacteriologist?" And he outlined the reason to me, that because he was a chemist and bacteriologist, his pathology was based on bacteriology. He classified the causes of the summer diarrhoea from that point of view. I think that classification has been adopted, generally, since that time. That is almost ignored in Berlin at the present time,

and the chemical side of the inquiry is in the front, the bacteriological contamination of milk playing a secondary role.

I heard Finklestein say that until the present time, until he got to work along the lines that he is working on, (although every drop of milk is still boiled in Berlin. and has been for years,) mortalities from summer diarrhoea had not dropped one single per cent. The mortality, as our secretary stated in a paper that he read in Grand Rapids a year ago, has now been reduced from seventy or eighty per cent to twenty per cent, working out simply on the theory that the salt and sugar of cow's milk is what does the trouble. No doubt, some of the gentlemen with us will speak a little more in detail about his specific treatment, his own treatment that he has worked out for summer diarrheas. I believe that a man, to work out Finkelstein's ideas, has got to go to Berlin and see him work. I do not believe any one will get his ideas down so that he can, under all conditions, treat a case as Finkelstein and his school do. I know men in this country that are using his method today, and they have bad results, and they say: "O, pshaw! I have used that kind of milk for a week or six months, and it is no good; I did not get results." I feel in my own mind like saying that the men did not use it properly. One cannot go there and follow his work along, without coming away with absolute conviction that there is something of great value there in the matter of infant feeding.

F. E. RUGGLES, Bay City: I have been very much interested in Doctor Levy's paper, and also in the remarks that have just been made by Doctor Johnson. It is really quite wonderful how every person who attends a clinic of Finkelstein's in Berlin becomes converted to the Finkelstein method of feeding. It was my privilege to be one of those who attended one of his clinics, and the problem of feeding infants has been a changed one ever since I had that experience. I should like to speak of one factor, and that is the factor of heat in the production of these diarrheas.

Finkelstein says that death from cholera infantum should not be classed as death from summer diarrhea, but as death from heat stroke, and that the cause of the difficulty of absorbing or assimilating the sugar, as a result of the heat, is due to a change in metabolism that is caused by the heat. It is a metabolic change that occurs that renders the sugar a poison to the child.

In a recent number of the Journal of Children's Diseases published by the American Medical Association, I was very much interested in the literature along this line. Some of you may have seen it. It goes to show that heat is the direct factor in the causation of the diarrheal diseases of children, and the statistics carry the weight of conviction with them. For instance, in Dresden the statistics showed that a large majority of the cases of diarrheas of children occurred in the congested districts along the river Elbe, which is the lowest part of the town, in just a very few city blocks, and the entire rest of the city contained but a very few of these cases. Elsewhere the same results were shown. Families living in basements had a small percentage, perhaps seven or eight. Those living on the ground floor, where it was hot in the street, and where they got little air, I think it was in the neighborhood of fifty per cent, and on the second floor, perhaps ten per cent, and on the fourth floor where they got plenty of air, and it was cool, there were a few cases, but on the fifth floor again, where they were under the roof the number of cases jumped up, showing the direct etiological factor of heat, which, according to Finkelstein's theory, changes the metabolism of the child so that it can't use the sugar in the food. In the hospital, I saw a number of cases in which the diarrheas were produced by over-heating the child by hot-water bottles placed too close to them; they got a heat stroke. It has been mentioned that the production of these cases, and the curing of them with a chemist's precision, just as though it was in a test tube, is quite remarkable.

R. S. ROWLAND, Detroit: I have been very much interested in Doctor Levy's paper. It appears to me that it is very technical and difficult to express in a section where the members are, probably very few of them, interested especially in its completeness. Doctor Johnston covered the ground in a general way. As we know, in following along our cases, at one time the proteids were considered the principal trouble in these cases. Then we believed, later, that the fats were the principal cause. It has been most interesting to me to arrive at the conclusion that there is a great deal in this work of Finkelstein's. It has been an education to me just in the past summer, to feel that I have made discoveries in treating my babies that I had not appreciated before. Through Doctor Levy, and our Walker Laboratory, I have been able to use Eiweiss milk on a considerable number of babies this summer, and I feel confident that we have

a method thad did not exist before. The cases that I had are cases (possibly the majority of them) of bowel disturbance and indigestion; but there were secondary cases, possibly due to some other infection. Those cases on the milk always did well, and I had much better success than on the other methods followed. On the Eiweiss milk, these patients did better than they did on the old method of treatment. I only had two cases that would be classed as acute. They were both extreme cases, but they improved rapidly and went from the hospital practically cured. I have had only one case of trouble, and that was with a case that seemed as if it was not going to get well, but that case is improving on the Eiweiss milk.

In regard to the different forms of carbohydrate used, lactose and maltose, I always used milk sugar up until possibly a year or two ago. But I have now used the malt sugar almost exclusively and I feel that I get better results than I do with the milk sugar.

In conclusion, I would like to ask Doctor Levy to tell what his experience has been with Eiweiss milk. He worked in the Finkelstein clinic for some time, when they were perfecting this method of treatment, and I think he can give us some very interesting facts, and more definite ones that I should like to hear.

H. M. RICH, Detroit: I would like to say in regard to Doctor Levy's paper, that the summer diarrheas that so often come to us of late are the result of using proprietary foods. The Eiweiss milk is a very practical thing in the treatment of a large percentage of summer diarrheas.

CHAIRMAN SHEPARD: I would like to ask one or two questions of Doctor Levy. I am interested in the progress of the subject from a bacteriological standpoint, especially. According to Harper of New York, the ordinary bacillus in the intestine of the nursling is the lactis cyanogenus bacillus, the colon bacillus, and then, as you come into the lower bowel, that is, near the caecum, the bifidus appears; and almost pure cultures, he claims, reach the rectum. Then, he claims that the saccharo-butyric fermentation is due to the bacillus aerogenes capsulatus. I wondered if Doctor Levy has made any special research along that line, or has anything to suggest on what has been found in the studies that he has made. Harper claims that this is the principal bacillus of saccharo-butyric fermentation.

D. J. LEVY, closing: In regard to the theoretical nature of Finkelstein's work, as brought out by Doctor Johnston, of course, the work is partially of a theoretical nature, and partially of an intensely practical nature; but whether or not the Finkelstein theory is correct, it is quite plausible. The important fact to us is that the methods based on the Finkelstein theory are productive of results, and that, maybe, is the best test. When Prof. Finkelstein took charge of the hospital in Berlin, there was a mortality of about 70%. Under his direction, in a short time, the mortality was reduced to about 20%, and this last year it was as low as six or seven per cent.

During the six months that I had the privilege of serving in his clinic, with a number of thousands of infants, practically all feeding cases, I saw only three deaths, due to nutritional disorders, two brought in with advanced atrophy, and the other a case of pyloric stenosis; the other cases making up the six per cent being meningitis, tuberculosis, pneumonia, etc. On a visit in March, Prof. Finkelstein said that the problem of infant feeding in his clinic had ceased to be a problem, and the results are very largely (I do not say entirely,) due to the albumin milk therapy that several of the gentlemen have spoken of. The albumin-milk consists of the casein of a liter of milk finely divided, and suspended in water up to a liter, to which is added a half liter of buttermilk. This contains all the proteid of cow's milk, two-thirds of the fat, one third of the sugar, and about one-third of the salt, all contained in an inert medium, water. If this food be given according to its indications, and the medium be properly prepared, the same results can be obtained here as are produced abroad. I have seen some very successful work here by some of those who have spoken this afternoon, with the Eiweiss milk feeding. The important thing is to feed according to the rules laid down by Finkelstein and Meyer, and not be afraid of the character of the stools produced.

Let me particularly emphasize what Doctor Rowland brought out, that in some cases we have a frequent profuse stool, containing curds, mucous and that sort of thing, which, so far as nutrition itself is concerned, has very little significance; that is to say, the disturbance lies outside of the intestinal tract; not inside. Where there has been a damage to the intestinal epithelium, complications may be feared in the form of alimentary intoxication, alimentary fever and that sort of thing.

THE DIETETIC MANAGEMENT OF DIABETES.*

M. A. MORTENSEN, M. D.
Battle Creek, Mich.

At best, the management of diabetic patients is a difficult problem. The dietetic part of the therapy is of prime importance, and, at the same time, the most difficult to control unless the patient is of more than ordinary intelligence and is master of his appetite. Very few people realize that the body requires proteid, fat and carbohydrate to maintain its nutritive equilibrium, and much less do they know where to obtain these food elements in proper proportions. If the patient can be made to understand some of these important points in the physiology of nutrition, then it is much easier for him to intelligently co-operate with you in following your diet prescription. My experience in dealing with a series of 38 cases of diabetes has impressed me with some of these difficulties in obtaining the cooperation necessary, as well as the fact that the management of the diet is a matter of the utmost importance.

Census statistics show that diabetes is on the increase in this country, In 1850, 0.9 cases per 100,000 were reported and in 1911, 9.3 cases per 100,000, almost a tenfold increase in 50 years, and it is improbable that all this difference can be accounted for by more accurate diagnosis and improved statistical reports. With this increase in the occurrence of the disease, the importance of more thoroughly understanding its management increases proportionately.

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

Diabetes is pre-eminently a disease of disturbed metabolism, and, in forming an opinion of the patient's condition to determine the diet prescription, it is essential that as much as possible be learned about the metabolism. Too many of us have been satisfied with simply knowing how many per cent of sugar have been excreted in the urine and, with this knowledge, go ahead and prescribe the diet. Knowledge of the amount of sugar, of course, is very essential, but we must also investigate the proteid metabolism, to determine if acidosis is present and to what extent. The amount of ammonia excreted is very important because, in the majority of cases, the amount indicates if acidosis is very marked and if coma is threatening. The acetone and diacetic acid should be estimated quantitatively, if possible. The amount of oxybutyric acid is estimated with considerable difficulty, being a rather long chemical procedure, but Von Noorden and others claim that the amount of ammonia excreted indicates approximately the amount of oxybutyric acid according to the following scale:[1]

2 grams of Ammonia equal about 5-8 grams Oxybutyric Acid.
5 grams of Ammonia equal about 20 grams Oxybutyric Acid.
8 grams of Ammonia equal about 36-40 grams Oxybutyric Acid.

Of course, all these estimations must be based on twenty-four hour collections of urine, and, with this data, we have a fairly accurate knowledge of the metab-

1. Zuckenkrankheiten Von Noorden's, 1911.

olism and know with what we have to cope. We know whether the patient is threatened with coma, or whether the acidosis is only of a moderate severity, a fact that cannot be determined from the percentage of sugar alone. To illustrate: I had one patient with an elimination of 231 grams of sugar in 24 hours, a trifle over 8%, but with only a faint trace of acetone and one gram of ammonia, indicating practically no acidosis; and another case with 125 grams of sugar or 4%, but with 4.2 grams of ammonia, 1 gram of acetone, 1.6 grams of diacetic acid, indicating rather marked acidosis. The simple percentage of sugar would lead us to think the first case the severe one, when, as a matter of fact, the sugar was entirely eliminated from the urine in a couple of weeks and the second case was but slightly benefited, and continually on the verge of developin coma.

During the last decade, a great deal of investigation has been made of the body metabolism, and Von Noorden of Vienna, is one of the pioneers in the study of diabetes. In the management of diet, he emphasizes the necessity of a thorough knowledge of all the above mentioned factors. Benedict and Joslin[2] of Boston, are also convinced, from their investigations, that a thorough knowledge of the metabolism is essential in order to do the best possible by your patient. They have proven that in diabetes there is a decidedly increased metabolism. Falta[3] and others have shown that in the dog with extirpated pancreas, the oxidation processes are very much increased, so much so that the nitrogen metabolism is as much as three times the normal and the oxidation of fat very much accelerated. Eppinger[4] and Falta advance the theory that this increased metabolism is due to the loss of pancreas inhibition on the thyroid, thus accelerating the action of this gland on the metabolism. The result is a marked loss in weight due to loss in proteid and fat constituents of the tissues, greater than can be accounted for by the loss of the sugar excreted. Practically, all are agreed in accepting the pancreas as the seat of the cause of diabetes, and that it is due to some change in quantity or quality of the internal secretion of the pancreas. As to how this change in the internal secretion causes diabetes there is still much speculation, but the most reasonable theory is that it disturbs the equilibrium between the internal secretions of the body. Biedl, Falta, Eppinger and others have shown that the secretions of the thyroid, adrenals, and pancreas are closely related, and any disturbance here manifests itself in a distorted metabolism. In addition to these, it is possible that the muscle juice also has some influence. O. Cohnheim[5] discovered that pancreatic extract and muscle juice together exhibited decided glycolytic power on solutions of dextrose, while separately, they had no effect whatever. This led to the idea that, in diabetes, the muscle secretion or juice played some part in causing the disease. Crofton,[6] Sewall[7] and others have made clinical use of this theory by giving pancreatic extract and muscle juice, with apparently good results in some cases. I am convinced that a loss of balance between some of these internal secretions is an important factor in causing the distorted metabolism of diabetes, but, up to date, our knowledge of the exact function of these secretions on the chemistry of the body is far too limited to know just how to restore the balance and improve the metabolism.

2. Metabolism in Diabetes. Benedict & Joslin, 1910.
3. Inner Sekretion, P. 384, Biedl. 1910.
4. Ibid, p. 385.
5. Hoppe-Seylers Zeitsche fur Physiol. Chemic. 1903, p. 336; 1904, p. 401; 1906, p. 253.
6. New York Med. Jour., LXXIX., 882.
7. Is there specific treatment for Diabetes? Am. Jour. Med. Science, Sept., 1911.

Glycosuria, in a strict sense, is only a symptom, and, as a rule, when we use the term, we mean only the transient elimination of sugar in the urine, the result of excessive ingestion of sugar or other carbohydrates. In such cases, the liver must be considered a glycogen storer, but crippled in this function, or overloaded. In some cases where this transient glycosuria appears frequently, we often find that the liver is cirrhotic. This condition may also involve the head of the pancreas, but, of course, then the glycosuria is apt to be persistent, and then we have, as a rule, a mild form of diabetes. In the treatment of these cases, the liver must receive special attention rather than the diabetes.

In true diabetes, the diet is, after all, the most important part of our therapy, and will always remain so unless a specific remedy is discovered to restore the disturbed equilibrium of the internal secretions and metabolism. In the dietetic management of diabetes, we must remember that sufficient food must be given to supply energy, not only for the tissue needs, but also for the waste in the urine. Every gram of sugar excreted means 4.1 calories, and each gram of oxybutyric acid a loss of 4.4 calories, so that a patient eliminating 150 grams of sugar and 20 grams of oxybutyric acid is losing over 700 calories. There are, in addition, other sources of loss, such as the heating of the large quantities of urine excreted. In view of all this loss of energy, it is well to conserve energy as much as possible, by protecting from undue exposure to cold. The severe cases should be warned against too much exercise, and the very weak patients should be kept in bed so as to diminish metabolism as much as possible.

The object of treatment is to increase the tolerance for carbohydrates and thus lessen the waste in the urine. Before prescribing a diet, the tolerance should be carefully determined, and also at frequent intervals during treatment. This must be done carefully so that, from time to time, we may know exactly how much carbohydrate is utilized and, by comparison, know if there is any progress. If the patient eliminates more sugar than ingested, then we know that some sugar is produced from the complex proteid molecule and we have a severe form with which to deal. At the same time the tolerance is determined, we should also estimate the degree of acidosis, When these factors have been determined. then one of two plans may be adopted. In the one, prescribe a regular allowance of carbohydrate and, at intervals, estimate the tolerance and vary the prescription accordingly, which I find works very well in patients with no acidosis and over 45 years of age; the other plan is to follow the regimen worked out by Von Noorden, consisting of frequent variation in diet by the introduction of vegetable, or fasting days, and oatmeal days. During the past two years, I have been using this plan in nearly all my cases with decidedly more satisfactory results. The green or vegetable diet, as outlined by Van Noorden, consists of broth or bouillon several times a day as desired, any of the green vegetables, such as spinach, lettuce, asparagus, cabbage, artichokes, string beans, cauliflower, etc., in form of salads, or boiled and prepared with an abundance of good butter. Of the proteids, only 3 to 5 eggs and 3 to 5 yolks and bacon are permitted. The object is to give, as nearly as possible, a carbohydrate free and low proteid diet, in order to free the tissues, as nearly as possible, from glycogen. The patient should keep in bed on this diet if weak, and, in any event, cautioned against exercise of any kind, and, in case acidosis is marked, the use of alcohol may be of value.

This diet is usually given one or two days at a time and, as a rule, practically all the sugar disappears from the urine except in the very severe cases. As a rule, the acidosis is slightly increased and, where this is very marked, care must be used in prescribing this diet, especially if the patient has had a liberal allowance of carbohydrate. In such cases, the carbohydrate allowance must be gradually reduced and, if acidosis does not increase, then the green diet may be used.

After one or two days on the green or vegetable diet, the oatmeal cure should follow. On the basis that carbohydrate is the best thing to stimulate toleration for the same, a liberal quantity of oatmeal is given. I usually give from 200 to 250 grams of oatmeal a day, equalling 800 to 1000 calories. The oatmeal is prepared in the form of strained gruel or porridge, with an abundance of butter. In addition to the oatmeal and butter, 3 to 5 eggs may be given, or some vegetable albumin, such as pure gluten. According to VonNoorden, it is very essential that no meat albumin be given during the oatmeal days, nor should any other form of starch be allowed. The oatmeal cure should be continued from 2-4 days, and followed by a few days of ordinary diabetic diet with prescribed allowance of carbohydrates, varying according to the patient's tolerance, or the vegetable days may be repeated.

Date 1910	DIET	Carbohydrate gms.	Quantity Urine c.c.	Nitrogen gms.	Ammonia gms.	Sugar gms.	Diacetic Acid gms.	Acetone gms.
11–19	Restricted*.....	125	2000	12.60	.979	42.46	1.088	.193
11–20	Restricted*	100	1400	12.43	.866	48.30	.881	.217
11–22	Green	25	1250	10.95	.774	20.54	.255	.350
11–23	Oatmeal	200	1625	10.65	.707	55.14	.526	.173
11–27	Restricted*.....	125	1600	11.71	.816	38.83	.517	.155
11–28	Green	25	1150	10.48	.688	13.95	.215	.145
11–29	Oatmeal	200	1500	10.53	.663	24.45	.484	.145
12–4	Green	25	1360	7.83	.703	21.13	0	trace
12–5	Green	25	1150	9.42	.727	8.28	0	"
12–6	Oatmeal	200	1450	8.70	.601	39.59	0	"

*Days from one Oatmeal day to next Green day patient was on a Restricted diet of 125 gms. carbohydrate.

Von Noorden[8] gives the following precautions in the use of the oatmeal cure:

1. No other form of starch should be given with the oatmeal, otherwise, without exception, the result is unsatisfactory, the glycosuria often showing enormous increase.

2. No meat should be permitted on the oatmeal days. If proteid is given, it should be in the form of vegetable albumin or eggs, and, in some cases, eggs seem to

8. Zuckerkrank, 1910. Von Noorden, p. 316.

inhibit the favorable action of the oatmeal.

Blum[9] of Strassburg, has recently reported a series of cases where he has used wheat starch instead of oatmeal with similar results. He used the same variations as outlined by Von Noorden.

In the moderate cases of diabetes, the tolerance is decidedly increased by this regimen in a comparatively short time, and, even in the severe cases, satisfactory improvement is often made, but, of course, the treatment must be carried on for some months, as a rule. My experience convinces me that this method of managing the diet gives the most satisfactory results in the shortest time. In the cases of marked acidosis, extreme care must be used in withdrawing the carbohydrate too suddenly as this greatly increases the danger of fatal coma. We are also apt to be misled if we depend too much on the amount of sugar in the urine as quite frequently this drops suddenly, just before coma develops. If symptoms of coma are present, it is advisable to give carbohydrates freely, preferably oatmeal gruel, or levulose in form of lemonade. Balint[10] recommends sugar solution by enema in the treatment of extreme acidosis. Bicarbonate of soda or sodium citrate should be given in liberal doses three or four times a day in such cases.

Next to the control of the carbohydrate, comes the judicious use of albumins. This is especially important where, on a carbohydrate free diet or fasting day, there is still considerable sugar in the urine. I have already called attention to the exclusion of meat from the oatmeal days, and, in the severe cases, it is well to remember that all forms of albumins are not equally well tolerated. Von Noorden has found that casein and meat from cattle and fowl are least tolerated, next fish albumin, then egg, and, best of all, vegetable albumins. Of course, the average case of diabetes tolerates a liberal allowance of all forms of proteids, but, in the severe cases, the quantity should be limited, and the more easily tolerated forms should be chosen.

With reference to the fats, little need be said, as they are well tolerated, as a rule. It is probable that acetone is derived from the fatty acids, hence, with increasing acetonuria, the amount of fat should be reduced. It is also well to examine the stools for excess of free fat and fatty acids, and, of course, if large amounts of free fat are found, then the fat allowance should be decreased.

9. Munch. Med. Woch., July 4, 1911.
10. Berlin Klinisch. Woch., No. 34, 1911.

Discussion.

Doctor Williams:* During the course of this afternoon's work on the consideration of carbohydrates in the digestion of infancy, and the question of diet in diabetes and glycosuria, there seems to be a distinct relationship, and I think many of the same things can be said of one as of the other. For instance, I think that anyone who has carefully observed the causes of carbohydrate intoxication in infancy, and cases of diabetes, will agree that there are questions of relationship. I think too many of our patients have been too extremely treated; that the term "carbohydrate" and the term "proteid" does not mean that all proteids and carbohydrates are equivalent as far as their digestibility and use in the body are concerned. I certainly think that the oatmeal is, and that the proper use of carbohydrates in the feeding of diabetes, is of great importance in keeping up the body weight which is a matter of the utmost importance in diabetes.

A Voice: I have had some practical experience with a very serious question, that has been productive of good results, particularly so far as acidosis is concerned. In regard to the oatmeal therapy, where there is a condition of acidity, I would suggest the addition of wine or

*Address and initials not obtained. [Editor].

alcohol in some form with the oatmeal diet. The presence of wine, whiskey or alcohol, in some form, makes the food much more palatable; and, in addition to this consideration, the alcohol itself has a different value—it serves as a food. In one case which I have at the present time, I give from a half pint to a pint of Rhein wine. I obtain three hundred calories per day from this wine; and the wine serves the purpose of somewhat lessening the production of the acetone bodies.

DOCTOR MERRILL: I would like to ask what the prognosis is in a case that constantly excretes sugar from a period of six or eight months.

MARY WILLIAMS, Bay City: I have been very much interested in this disease; and several cases that I have known, I think have been caused by an over-taxation of the nervous system. Probably the nerves were so attacked that it produced a disturbance of metabolism and a disturbance of the pancreatic glands; and then too, in regard to the matter of diet, I have for several years prescribed it myself, and have known of several physicians that have been using the mixed diet. Of course, we used to use an exclusive diet, and I have known some physicians that have used a mixed diet and have not put them on the meat diet at any time, but gave just a little meat each day in order to get a mixed diet, and it has been a very successful treatment.

J. E. DAVIS, Detroit: I want to express my appreciation of this excellent paper. I think it sums up the very best treatment for this trouble. The most important clinical point to be taken in mind is to treat the patient, regarding the general condition rather than the amount of sugar that is being excreted, or the amount of acetone. Von Noorden has shown that some patients are doing very badly when the excretion of sugar is very low. This point has already been brought out in the paper. The whole question, it seems to me, is one of keeping up the nutrition of the patient for a sufficient length of time until the carbohydrate metabolic process can be properly raised. If we are going to have a recovery, it will come after they are properly raised; and the playing from one diet to another, as is the plan on the table here before us, enables the patient to keep up the highest state of nutrition, and that accomplishes the purpose that we are after, keeping the patient going as long as possible, so that the greatest of rest can be secured.

M. A. MORTENSON, closing: I feel that I have not given you anything new this afternoon; but from my experience with this class of cases, I find that a great many of them have been treated with attempts at using something along this line, but that the physician has failed to observe the important points, and, of course, has failed to get the results. Now, I was asked with reference to the preparation of the oatmeal. This is very important. It is not, as a rule, simply what you speak of, as oatmeal mush, that is given to the patient; but the oatmeal is thoroughly boiled and strained, and you get then practically all the carbohydrate from the oatmeal, and in a very smooth, bland condition. With this oatmeal, then, almost an equal amount of good butter is mixed, and it makes a very palatable dish, and it can be given to the patient every two or three hours during the days that they are on this diet.

With respect to the fatty acid in relation to the acetone, an important point is brought out in the use of butter. First, it is practically agreed that the acetone comes from the fatty acids, and especially, the lower acids. Von-Noorden states and writes that whenever butter is used, that is made from sour cream, or if the butter has been kept for some time, then we should look out that it does not contain a large amount of butyric acid; and, if it does, this can be removed by washing the butter in cold water, because the acid is soluble. With respect to alcohol, I think it is very important in a case of marked acidosis, and also where the ability to digest fat seems to be limited. The caloric value of alcohol is estimated at about seven calories per gram. I did not get Doctor Merrill's question in the first part of the discussion?

DOCTOR MERRILL: I wish to get your idea as to the prognosis where a case has persistently excreted sugar for six or eight months?

M. A. MORTENSON: That is a difficult question to answer, definitely, because there are so many things that must be taken into consideration, aside from the simple elimination of sugar. I now have a patient under my care who has eliminated sugar, and who has had acetone and diacetic acid in the urine for five or six years. That patient has twice been under Von Noorden's care; and when he went there he was almost in a state of coma, and he is getting better. At varying intervals, he goes on a strict diet for a short time using the green diet followed by a few days on the oatmeal diet, and that keeps

him at a level where he is comfortable; and each year that goes by he is geting better. This man is about thirty-five years of age; and I have told him that every year that goes by his prospects for a reasonable degree of health improve. Now, in regard to young children, that is, individuals under twenty years of age, who have excreted sugar in a large quantity from six to eight months, with marked acidosis, I would say the prognosis is probably very bad; but Von Noorden emphasizes the fact that we must not be discouraged. It requires persistence and patience to deal with these cases; but by a proper manipulation of the diet, it is surprising the results that are obtained.

With reference to the question of the nervous system in relation to diabetes, that is, of course, a matter that has been before us for a long time. But there is no question that some severe nervous shock may bring on diabetes. Now, I do not think that the nervous shock in itself is the cause, but, rather it is the medium of bringing out a condition almost ready to appear. I remember one case where a little boy about seven or eight years of age had been under treatment for diabetes, and we had been successful in eliminating the sugar, but there was still an acidosis, and thinking there might be lipemia, a blood test was taken, that is, the child was bled, and that shock or that operation on the child brought back the sugar in increased quantities, and it took weeks to overcome that exacerbation. Now it is probable that the recurrence of the sugar was brought on by the effect of the shock on the nervous system of the child.

DOCTOR WILLIAMS: Now, in the treatment of diabetes, would you restrict the amount of liquids taken; water?

DOCTOR M. A. MORTENSON: My rule in that respect is, simply let the patients drink as often as they want to, but tell them to drink small quantities at a time, because the small quantity of water will quench the thirst just as well as drinking a large quantity, and as a rule, they get along very well with that restriction. I pay very little attention to the amount of water that a patient drinks.

OCCUPATIONAL DISEASES

A summary of the recent legislation in regard to the reporting of occupational diseases is published by J. B. Andrews, (*Journal A. M. A.*, December 16). In 1911 for the first time in America, six states—California, Connecticut, Illinois, Michigan, New York and Wisconsin—enacted laws requiring physicians to report cases of occupational disease. These laws have much in common, and the diseases usually specified are anthrax, caisson disease, lead, phosphorus, arsenic and mercury poisoning. In Wisconsin, anthrax is omitted, and in Illinois the law is not quite clear in every respect, but seems to cover the usual disorders. In most cases the notification is to include the name, address, place of employment and disease of the patient. Michigan requires, in addition, the length of time of such employment, and in New York such other information as may be required by the Commissioner of Labor. In every state but Connecticut there is a penalty for failure to report, but only in California and Connecticut is a compensation given for reporting. This pioneer legislation is the result of an attempt to excite interest among medical men, and for this purpose a tentative bill based on twelve years of English experience was introduced into eight state legislatures. In Minnesota action was postponed after it had been passed in one house, and in Pennsylvania it was vetoed on account of an amendment considered to be unconstitutional. Extracts are also given from a leaflet distributed not only to legislators, but to others interested, pointing out the improvements that have been made by legislation on this subject in Great Britain and elsewhere. The state officials are encouraged to add as many facts as possible on the subjects, by special blanks sent out for the purpose or by special investigations. The educational work, it is understood, is only begun by the enacting of these laws, and already in several states much valuable information has been obtained and boards of health and physicians are taking up the study of the subject.

RESUME OF TWELVE YEARS' EXPERIENCE WITH THE ROENTGEN RAY AS A THERAPEUTIC AGENT*

H. R. VARNEY, M. D., and R. C. JAMIESON, M. D.
Detroit, Mich.

From the time the Roentgen ray was first used as a therapeutic measure, about 1896, even until the present time, its path has been that of many new remedies, which have, at their inception, been hailed as a marvelous panacea for all ills, but which have finally settled into niches of their own in the physician's armamentarium.

As with the opsonic treatment at a later date and even salvarsan at present, the Roentgen ray, ten years ago, was used not only in conditions which could be benefited, but also in those that were positively incurable. It is not just to throw some new therapeutic agent into the scrap heap if it will not cure every case on which it may be tried, but, after the first enthusiasm has died down, employ it for such diseases in which reason and science would indicate that it would be of value. Each method of treatment has its individual class of cases and even individual people where it will produce results which nothing else could do, and, if treatments were carried out with this in view, the new remedies would not be tried for every disease in the book and then completely discarded.

The Roentgen ray, however, while we admit that it has failed in some, even many respects in which great things were expected of it, has still an enormous field of usefulness and, if used cautiously and intelligently, could be used for even more diseases than at present. Though the Roentgen ray is usually thought of in connection with radiography and not with radiotherapy, its greatest field of usefulness is not in those cases requiring extremely deep penetration, but in those where the action desired should be rather superficial, not alone on the surface but also a very short distance below, i. e., in the true skin. Using the ray in this manner, we have come to employ it for dermatological conditions more than any thing else and it seems there to have its greatest field of usefulness.

From being used indiscriminately, the ray has now come to possess a certain definite therapeutic value in a selected class of cases and the ray is not used for cases which can be cured as easily and quickly by other means. In general, it may be said that the ray is indicated in almost all sluggish, chronic skin conditions in which a deeper and more powerful stimulation is required than could be obtained by other methods. For example, chronic acne indurata, chronic eczema, localized psoriasis, ulcers, epitheliomata involving only the skin, etc., and also a number of other conditions which will be mentioned in speaking of the results obtained by this means. Conversely, it is also true that the ray would be contraindicated in any acute, irritable, dermatological affection, as, in that case, soothing applications would be required instead of

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

stimulating ones. Bearing these general rules in mind, the Roentgen ray is an instrument of wonderful power for good if used properly and cautiously, but it can do an equal amount of damage if placed in inexperienced hands. As a general rule, a new patient is asked if his skin is easily sunburned and his complexion closely observed in regard to pigment production which varies greatly. The first few treatments are governed by the sensitiveness of the skin to the light rays, as some cases would be burned in a few treatments which would have absolutely no effect on others.

Inasmuch as nearly all of the affections treated were limited to the skin, the changes due to the light could be quickly detected, and it was not deemed necessary to have any instrument to attempt to definitely measure the dosage on account of the personal equation and observation.

Using the same tubes on the same class of cases, regulating the spark gap and vacuum of the tube by what experience has taught to be the best, has been the method generally adopted to measure the dosage. The distance of the tube from the patient is constant, but the time of the exposure varies according to the number of treatments already administered. The routine plan of treatment is as follows:

The patient is protected by lead shields on the parts not needing treatment, the tube (self regulating) is then placed five or six inches away from the surface to be treated, the regulator being set (one inch spark gap) to keep the tube at a fairly low vacuum, the intensity of the ray being controlled by a rheostat. The first exposure is begun at three minutes to be on the side of safety, gradually increasing to five minutes, giving the first four treatments 24 hours apart, then every 48 hours, until a marked improvement has taken place, or a mild tanning or erythema set up, then every third or fourth day, gradually making the intervals longer until a cure is effected. We no longer give daily treatments for any length of time, nor do we give ten to twelve minute exposures, much preferring to produce the same result more slowly but without any danger of causing a burn, believing, in this case, that moderate stimulation is better than a mass dose. This plan is followed as a routine method and it has given uniformly successful results, but in many cases it has had to be varied in some details, but we have, fortunately, been able to regulate our treatment by the reaction shown on the skin.

The ray used was formerly generated by a static machine and was very satisfactory when the machine saw fit to run, but it was very erratic and would fail when needed most. There was also held the idea that the ray developed by a static machine gave better results and would not burn so readily. This, however, did not prove to be the case and, as the static was unreliable, the coil and interrupter were substituted and have been used steadily for the past eight years with practically no trouble.

In treatment work, there has been observed a peculiarity about the ray in that there is very often a retarded or cumulative action. It frequently happens that a number of treatments have been given for some condition with no apparent effect, but, if the ray is stopped, the patient later shows a marked improvement even though not being treated. It may even be so with regard to burns as a skin surface may have received enough ray to produce a burn but show no sign until some time later. All these things must be taken into consideration when treating dermatological conditions as well as the fact that patients

are liable to have idiosyncrasies which require careful handling to produce a cure without any unpleasant consequences.

Allen classifies the cases suitable for treatment as follows:

1. Those presenting extensive denuded, or ulcerated surfaces.

2. Hypertrophic changes in connection with the epithelial process, giving papillomatous and nodular outgrowths, may not respond promptly to the ray treatment and should be removed before the ray is applied.

3. When the process involves rather deeply the skin and underlying tissues, including the bone, the ray should be given the fullest trial, and operative measures be resorted to only when the ray has utterly failed.

4. When there are delicate structures involved which render it difficult to confine the action of a caustic within safe limits, or where operation would certainly entail disfigurement, the ray is to be chosen as the best method available.

5. When an epithelioma in any location has been previously removed by means other than the ray, the latter should be used in removing the recurrent growth.

To this classification may be added chronic dermatological affections which have resisted all other forms of treatment, and which, we have learned by experience, will respond to Roentgen ray stimulation as they will to nothing else.

While the early workers did not realize the potency of the ray, it was soon discovered that it was an agent of destruction, but, if used in mild doses, was a stimulant through its destructive action. This may seem a paradoxical statement but it should be remembered that the ray is used in pathological conditions having both normal and abnormal cell elements, and the destructive action is manifest first on the abnormal cells, stimulating the normal ones to increased proliferation, thus throwing off the pathological tissues.

The first action of the ray is to produce a localized dilatation of the blood vessels and hyperemia of the treated. This is only transitory at first but becomes more permanent as more treatments are given, or the stage of erythema is reached. Following these effects, comes the proliferation of normal cell elements with destruction and throwing off of the abnormal, which then allows healing to take place. If continued longer, the opposite effect would be produced, atrophy of the skin structures with destruction of the superficial layers, and an X-ray burn. These different effects can be practically produced at will by careful regulation of the treatments and close observation of their effects. Another effect of the ray is to produce a sensitization causing the local resistance to be raised. In the case of pyogenic infections, this may be due to or assisted by leucocytosis, as Crane claims that the ray will cause a general increase in the leucocytes. So that the results produced by Roentgen ray treatment are due to sensitization and increased resistance in the part treated, sterilization of pyogenic organisms, leucocytosis and destruction of pathological cell elements. Bearing these different effects in mind, it will be readily seen later why results were obtained in widely differing classes of cases. The skin is always left smoother, softer and finer than before treatment and, in old acne cases with dilated pores, the glands are partially atrophied and the ducts rendered much smaller.

As is always the case when some particular line of treatment is especially recommended, the X-ray has come in for its share, and even more, of criticism. While so many writers are crying out against the ray on account of inaccuracy of dosage, poor results or none at all, etc., there are some who recommend its use yet deplore the lack of proper measurement, as it must, of necessity, to get the best results, be placed in the hands of experienced men who are constantly using this method. However, in a comparison

of this method with other procedures, the balance is almost entirely in favor of the ray in all the cases which are amenable to this form of treatment. It must not be supposed, however, that other methods are not used in conjunction with the ray, as its action is often aided and hastened by local and general measures. The different therapeutical aids employed will be spoken of in connection with the different classes of diseases with their comparative values with and without the ray. The results to be desired from any method of treatment are permanency and rapidity of cure, minimum deformity, and a freedom from pain, which effects are all embodied in the Roentgen ray treatment. While the changes in the tissues are slow, following ray treatment, the results so far outpass surgery, caustics, vaccines, local and general treatment, that it now occupies a place which can be filled by no other agent.

Most marked success has been attained in the use of the ray in the treatment of superficial malignant growths of the skin. While the treatment was given at first to all varieties of malignant growths, the field is now narrowed down to cutaneous epitheliomata, with an occasional attempt to cure deep seated carcinomata and epitheliomata of the mucous membrane. No other agent can do here what the ray can do, as surgery is painful, leaves a scar and does not prevent recurrence, caustics are painful and leave a slowly granulating ulcer, while freezing lowers the vitality of the part treated, very slow healing being the result. As these cases are, for the most part, elderly patients, and the growths being usually on the face, around the eyes, etc., all the above factors must be taken into consideration, giving a clear field to the ray, which will permanently heal with less deformity, scarring and pain than the above mentioned methods. However, in epitheliomata and rodent ulcers having thickened, hardened edges, a more rapid cure is effected by the use of the curette to scrape out the hardened material, which would be only slowly removed by the ray. Following this with a mild, arsenical paste for a few hours, to seek out and destroy pockets and nests of pathological cells, and then using the ray to produce rapid epithelial proliferation, is the method which has given uniformly successful and permanent results. This plan can be used for any superficial growth, and has the advantage of adaptability to location where other methods could not be used (e. g. around the eye).

Before the advent of the X-ray, sufferers from acne had to endure as best they might while nature and some medicinal agents brought about a cure, during a period of one to several years, even then leaving a scarred and pitted skin or, sometimes, not curing at all. Since that time, however, acne patients can be promised a cure, sometimes slow, perhaps, but still a cure, in far less time than any other agent could produce it and also leaving a much better result. Mild cases are treated at first with vaccines, massage, lotions, etc., but, if they prove stubborn, they are given ray treatment with the more severe cases. The same general plan of treatment is followed out here, beginning with short daily exposures, gradually increasing the length of treatment and diminishing the frequency, but we always expect an exaccerbation of the disease before the acute stage begins to subside. The patient is always warned of this as otherwise he would become discouraged and stop treatment at once. The first beneficial effects noticed are a diminution in the number of new lesions, the lesions are more superficial and shorter lived while the comedones can be seen to

be slowly pushed out on the surface by the contraction of the ducts behind them. There is also produced a sterilization of the pyogenic micro-organisms in the acne lesions, which has been demonstrated by inability to obtain cultures from the pus after a moderate amount of ray treatment. The skin itself is left with a vastly improved blood supply, partial atrophy of the ducts and pores and a much smoother and firmer texture. Other measures, such as lotions, massage, tonics, etc., are also employed if the case demands it, but all types of acne will respond to the light, the indurated pustular variety responding to this treatment as to nothing else. Since the ray causes changes in the skin and glands, there is slight opportunity for recurrence as the causative agent is removed. The acne rosacea of people beyond middle life is cleared completely, obliterating the dilated vessels to a certain degree as well as completely removing the pustulae, leaving a smooth, normal appearing skin, and diminishing the size of the organs affected, particularly the nose.

Tuberculous glands with or without discharging fistulae, show marked improvement in a short time and, if the treatment is continued, the fistulae close up, the glands become absorbed entirely except for a small amount of fibrous tissue. The dread of the knife and subsequent filling up of the glands, especially in the cervical region, is now done away with and a patient can be assured of a complete cure with a minimum chance of a return of the disease if the process has not proceeded to a complete breaking down of the gland. Glandular enlargement due to other causes will also respond to the ray, although when a disease condition is back of the localized trouble, e. g. Hodgkin's disease, it is extremely hard to cause the glands to return to normal and it is not possible to prevent a return by the light alone.

Time will not permit us to go into details with all the diseases in which the Roentgen ray is an indispensable agent, but those cases are legion where only the ray can give the necessary stimulation and deep germicidal action. For example, in sycosis, true barber's itch, the ray is invaluable, as it helps stop pus formation and, at the same time, epilates the hairs and cures one of the most chronic of skin diseases. Varicose ulcers are stimulated to heal in a comparatively short time, while old localized patches of eczema and psoriasis will vanish quickly. Keloids that have been removed several times will respond to the ray and will again become level with the skin.

We are willing to admit that the ray has not done these wonderful things in all cases in which it has been tried. Some received it as a last resort while on others it was used experimentally. In exophthalmic goitre it has given indifferent results as well as in lupus erythematosus, rectal and bone fistulae, leukoplakia, carcinomata and epitheliomata of mucous membrane. Hypertrichosis has been successfully treated, but the epilation has to be done at least twice and the risk of producing a burn or permanent atrophy is too great, so these cases are not now treated by this means. It has proven of service in blastomycosis as well as in intractable symptomatic pruritus vulvae and ani.

This list could be enlarged upon and each disease dwelt upon at greater length, but, after hearing the foregoing, do not cast the ray aside as a useless therapeutic agent, as in the hands of men who have had long experience with it, wonderful results can be produced.

In conclusion, let us state that the Roentgen ray stands today as one of the most

powerful agents we possess without which the percentage of cured cases, dermatologically considered, would be far less than it is at present.

Also that there is a certain percentage of dermatological affections, chronic in nature, incurable by any other therapeutic means except by the proper administration of the ray.

604 Washington Arcade.

ROENTGENOLOGIC EXAMINATION OF THE PREGNANT UTERUS*

P. M. HICKEY, M. D.
Detroit, Mich.

The following notes are intended simply as a preliminary report, and are presented largely to elicit the discussion as to the work which has been done by other members of our society.

The obstetrical Roentgen Atlas published by Lepold and Leisewitz in 1909, brought together in a very beautiful way, the applications of the ray to the field of obstetrics. Schoenberg, in his well-known treatise, has given the results of several of his investigations upon the feasibility of showing the living fetus.

The introduction of the new type of intensifying screen would seem to afford us new possibilities in the demonstration of the fetus in utero. Formerly, the exposures were of such length that the average operator hesitated to expose developing tissue to the long and intense radiation necessary for obtaining diagnostic plates. With the shortened exposure by the use of a screen, it would seem that this former fear can now be dispelled. The cases which the writer investigated went on to a normal delivery, with no apparent injury to the child. The cases which the writer investigated were undertaken simply with the idea of trying to find if the fetus could be shown in short exposures by the screen. The patient lay upon her side, with the screen in place underneath and the large cone of the diaphragm was brought against the opposite side. The difficulty in making lantern slides of such plates as were obtained precludes the demonstration of these plates by the lantern. The transparencies, however, which were made, and which we will now pass around, show that the head can be shown with the upper and lower jaw, and the wall of the orbit as well as the fontanelles, the thoracic cage and the long bones. This enables us to orient, in a rough way, the condition of the fetus, telling whether the presentation will be occipital or breach. The differential diagnosis between a single or twin pregnancy can also be made. It has not been the good fortune of the writer to have a case for the diagnosis of tubal pregnancy, but there have been a number of cases upon record.†

The conclusions which the writer would present from his small number of cases would be; first, that the short exposures made possible by this screen can be made in pregnancy without hastening the termination of pregnancy and without apparent injury to the living fetus; second, the Roentgen ray can be used in the later

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

†Since the above article was written the author has been able, in a case of doubtful diagnosis of pregnancy, to show the presence of a fully formed fetus when the clinical diagnosis was fibroid of the uterus.

months of pregnancy as an aid in the diagnosis of the different positions; third, the differential diagnosis between a single and multiple pregnancy can be made with considerable assurance; fourth, for the obtaining of soft tissue differentiation, the use of as low a tube as is consistent with penetration must be employed; fifth for the safe determination of the quality of the tube, the qualitometer is of the greatest assistance.

32 Adams Ave. W.

Discussion

J. N. Bell, Detroit: This paper is of very great interest to me. I consulted with Dr. Hickey a year ago, relative to the possibility of outlining the fetus in a pregnant woman, but, at that ime, Dr. Hickey was a little bit afraid that some damage might be done by taking a picture, but now, since he has the advantage of this modified screen, it seems as though something might be accomplished; very little, however, I think, of any practical value. There is one condition in which I think it might be of great service, and that is a condition of suspected contracted pelvis, where we are, even when using pressure, under an anesthetic, not able to satisfy ourselves entirely that we can engage the head. If, in one of these radiograms, we could demonstrate, after a woman has been in labor for some time, that the head is still above the pelvic brim, that would be another proof that the pelvis was contracted. I think, in those cases, it might be of some material service.

Chairman Smith: I would like to ask Dr. Hickey, in closing, just what advantage the X-ray would give over other examinations to be made in the ordinary way. Of course, the employment of the X-ray would necessitate considerable trouble, and if there is any advantage in it I would like to know just what it is.

P. M. Hickey, closing: I would not like to be misunderstood in presenting this subject. I presented this because I have been asked at different times by gentlemen, as Dr. Bell, if this could be done. They frequently want people to do it. We are able to do this. I do not advocate for one moment the fact that this method should supercede any other method, but I think it is an interesting fact that we can place on record that this can be done, that we can show the fetus if we wish. What I think the practical value of this is going to be is that in some of those doubtful cases of differential diagnosis between a fibroid and a pregnant uterus, and doubtful extra-uterine pregnancy, it is going to be of value. If we can show the developing bones in the fetus in an ordinary pregnant uterus, I think we will have one point which we may be able to employ in differential diagnosis between fibroid of the uterus and the pregnant uterus.

CONTRACT PRACTICE IN FOREIGN COUNTRIES

What may be our personal opinion in regard to the merits of contract medical practice at the present time matters but little says, W. B. Chamberlin, Cleveland. (*Interstate Medical Journal*, December). It is an institution already firmly organized and flourishing in our midst, and it has come to stay. It is very necessary that our profession pay heed to these facts. The contract or Kassa practice in Austria, a sort of industrial insurance supervised by the State, has grown from 1,540,000 members in 1890 to almost three million members in 1905, or fifty per cent of the inhabitants of the larger towns. As a result, over thirty per cent of the Austrian physicians have a total income of less than $240 per annum.

The average pay for some of the contract doctors amounts to about six cents a visit. In Germany the conditions are only a little better. The fee for an office call is fifteen cents, for a normal childbirth, $1.20. In England at present an attempt is being made to introduce a similar system of industrial insurance, and the profession there is fully aroused. They demand adequate remuneration and representation on the insurance boards. The profession realizes its danger and is thoroughly united. The same dangers will soon confront us, says Chamberlin, and we must be able to present a united body to browbeating industrial organizations and insurance companies, or suffer the consequences.

THE RELATION OF SURGERY TO MEDICINE*

FRANK BURR TIBBALS, M. D.,
Detroit, Mich.

The object of this paper is to call your attention to the interdependence of surgery and medicine, with a plea for more recognition of the attending physician in the after-care of his operated patients.

In all fields of medical practice, the last 25 years shows tremendous progress; in preventive medicine, in diagnosis, in treatment. Never before have we had so many resources at our command for the relief of suffering and the cure of disease. The great essential is *diagnosis*, followed by the intelligent application of the indicated remedy.

The rapid development of medical specialties has blinded the profession to the fact that the human body cannot be readily subdivided into its individual parts, medically, but must be treated as a composite whole, with special attention to any diseased part. There is no organ or tissue of the body independent of some other and but a limited number of disease manifestations are entirely local. Granting the truth of the foregoing statement, it axiomatically follows that the needs of the public can be best served by well trained general practitioners, broad minded enough to grasp the symptom complex and call to their aid the skilled assistance of the expert specialist in any needed line.

At present, there is too little in common between the general practitioner and the specialist. Probably the majority of the work of the specialist comes to him direct, without reference by the family physician, who, recognizing the condition without acknowledging the cause, often hesitates to add to the prestige of the specialist by calling him in consultation when he really needs his assistance.

The real reason for the present popularity of the specialist is the good work which he does, and the real reason for the decadence of the family physician is his poor work, through his lack of attention to detail in diagnosis and his failure to recognize and properly treat the many minor local conditions upon which specialism thrives. For example, the average physician is content to write a prescription for "gleet" or "piles," without examination, just for a dollar, while the specialist makes an elaborate examination with impressive technique, *knows* what is the matter, cures the condition and collects accordingly. Yet, with some training along special lines, a few inexpensive instruments of precision, and an educated sense of touch, any general practitioner should be able to diagnose and successfully treat these, and many similar local ailments now so largely in the hands of specialists. The ordinary minor lesions of the eye, ear, nose and throat, the ordinary non-surgical diseases of the genito-urinary tract in male or female, and diseases of the rectum, should be recognized and treated by modern methods by every family physician; then *your* offices will again be filled with the patients who now travel from office to

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911

office for treatment of their various ailments.

Every specialist practices more general medicine than specialty. Try as he may, he can isolate his special organ from its environment but occasionally. He treats local conditions locally, and, local conditions of systemic origin systemically. The general practitioner, from his broader viewpoint, is better able to correlate diverse symptoms than any number of star specialists, and better able to determine what, if any, special treatment is needed. He learns his patient's constitutional idiosyncrasies and his degree of resistance to disease, hence, can best aid the "vis medicatrix naturae," our most efficient aid toward recovery of strength and function. Excepting degenerative and malignant disease, severe infections and fatal traumatism, all disease conditions tend toward recovery. We but assist nature, we do not cure. This is never more true than in surgical cases. We set the fracture by restoring continuity, perhaps badly, but the rebuilding of tissue and regaining of function are Nature's, and very slight is the aid we can render in this process. In operative surgery this is also true, and if the patient lives through the anesthetic and escapes infection and hemorrhage from faulty surgical technique, we are dealing with a convalescent patient. Nature conducts the repair, fights off invading bacteria, and seals up the wounded vessels and tissues, while we only aid her by not interfering.

Why, then, should the operator feel that because he held the knife and needle, he must attend the patient during a convalescence, which, if he has done his work properly, tends toward an uninterrupted recovery? Can he do more for the interests of the patient by usurping the place of the physician who called him as consultant, and, if so, what? Take, for example, an uncomplicated abdominal section. Pathological tissues have been removed, bleeding vessels ligated, the wound closed and the patient placed in bed. If the operator has worked quickly and carefully, there is little shock and no hemorrhage or infection. What more is there to be done? Simply to watch the case for *possible* complications, in the event of which, the surgeon is usually as powerless as the physician. Without complications the patient is a convalescent, needing but a regulation of diet and elimination and advice as to when to sit up and go home. Wherein, then, does the surgeon fail of his duty, by imparting to the attending physician any special after care whims he may have and watching with the physician, in the role of consultant, until danger of complications is over?

If the operator be a good surgeon, complications develop but rarely in uncomplicated cases. Angus McLean has recently reported 2036 operated cases with a surgical mortality of 1.2% (peritonitis 5, ileus 6, thrombosis and embolism 6, tetanus 1, hyperthyroidism 2, acute pancreatitis 1.) A glance at the above causes of death shows that none of these occasional complications could have been averted by the *most* watchful after-care. The point under discussion is, of course, whether the personal and direct attendance of the operator prevents fatalities which would occur with the family physician in attendance and the operator as consultant. We submit, as our premise, that any well trained practitioner is competent to conduct the after-care of any operated case. It is possible to do harm by careless dressing, in delicate eye operations, in abdominal and pelvic operations with drainage, and in prostatectomies. In such cases, the physician will recognize the trained hand of the surgeon and want him to do the special dressings, in his

capacity of consultant. In all other cases, the attendance of the surgeon after operation is unnecessary except in an advisory capacity. He should share the responsibility without usurping, by word, act, or manner, all of it. He should give his suggestions to the physician or to the nurse, for the physician. It rarely, if ever, occurs that the advice of his consultant is not followed by a physician, both in letter and spirit. This is fundamental in the practice of medicine and as true in surgery as in any other field of practice. Per contra, the present day metamorphosis from consultant surgeon to attending physician is unique in medicine. In no other field does the consultant feel his responsibility keenly enough to bite the hand that feeds him.

Does the Roentgenologist treat your fracture case, or the consultant who makes a difficult obstetrical delivery for you insist upon conducting the after-care? Does the expert in internal medicine who makes an autogenous vaccine for your pneumonia patient take the case? Does the pediatrician take your case of meningitis because he makes a spinal puncture?

The true relation of surgery to medicine is that of a mechanical aid to general treatment. It occupies but a part of the field and a part inseparable from the rest of the field. Its relation to general practice is identical with all the other specialties, i. e., each is a branch of one great whole. In relation to the general practitioner, every specialist is a consultant for all referred work. Every well-known specialist has many patients coming to him direct, drawn by his famed skill. He sometimes treats these cases as his own, without obligation to any practitioner, or may refer them back to the family physician for general treatment. On all referred work the specialist confers with the physician and is largely guided by his wishes in his further connection with the case.

The surgeon has four avenues by which business comes to him:

1. Cases coming direct.
2. Out of town cases, referred for operation in the city hospital.
3. Operations out of town.
4. Referred cases in town.

With the first two classes the surgeon, in accordance with the present custom, has no professional obligation. He may or may not call in the family physician in city cases coming direct, but he must care for patients coming from a distance, until they are able to go home. In class 3, he has no option; he consults or operates, leaves the after-care to the local physician and does not see the case again unless complications ensue.

In class 4, he should continue as a consultant through the case. He was called in for that purpose and his expert advice is welcomed by the attending physician. It is neither necessary or desirable that he take entire charge of the after-care, to the exclusion of the attending physician. In point of fact, much after-care in hospital practice is left to assistants or internes, which should be left to the family physician. Both physician and patient would be benefited thereby, for the physician brings personal interest and, usually, wide experience, in contrast with the routine service of assistant or interne. Exclusion of the physician from after-care responsibility makes his visits purely social. Few patients want to pay for social calls, and few physicians are willing to make them.

As a result of the exclusion of the attending physician from a share in the responsibilities and the emoluments of surgery, every physician is now doing all the surgery he dares, and many of those too timid are asking a division of the fee

as a commission for referring cases. While operative surgery is purely a mechanical art, it is an art. Any man with good anatomical knowledge can operate, but to operate safely and well requires manual dexterity which all do not possess. It would be better for the public and the profession if most major surgery were done by a limited number of men; men specially trained in operative tecnique by years of hospital experience. But, until surgeons recognize that their field is but a part of the healing art, inseparable from the general practice of medicine, and work with the profession rather than by themselves, this condition is unattainable.

The fee splitting evil has been decried by medical societies all over the country without apparent result. The practice demeans both the surgeon who gives and the physician who accepts an unearned fee. Its existence is more indicative of inadequate incomes for general practitioners than of low morale for the surgeon. The only real cure for this evil is one which removes the cause. Allow the physician the after-care of his operated patients, with the operator as consultant. He will gladly accept an earned rather than an unearned fee.

Physicians sending patients from the country to the city for operation should charge for diagnostic skill, and for responsibility taken, and collect from the patient. Physicians coming with patients are entitled to charge for the value of their time and their share in the responsibility. In all circumstances where it is possible for the attending physician to conduct the after-care, the after-care rightly belongs to him, with the aid and advice of the surgeon whom he selects to perform the mechanical part of the treatment. His responsibility which ends only with the complete recovery of the patient is far less in surgical than in grave medical cases. With the possible exception of a few drainage cases requiring special technique in dressing, there is no surgical case where any physician competent to practice general medicine is incompetent to conduct the after-care.

Surgeons are only physicians with special skill in mechanical therapeutics. A just recognition by them of this fact and a willingness to cooperate with the profession in the treatment of surgical cases will do away with the present indiscriminate operating by nearly every physician.

The writer does not expect this paper to revolutionize existing surgical customs but is hopeful that by calling attention to present conditions, sufficient interest may be aroused to gradually bring about a closer, more reciprocal relation between surgeon and general practitioner.

ALCOHOL AND LIFE INSURANCE

T. F. McMahon, Toronto, Ont., states that a critical examination of the statistics of every life insurance company which separately classes its risks indicates that in every year and at all ages mortality is much lower among abstainers than among non-abstainers. Most British companies guarantee a lower premium to abstainers. To prove his statement the author cites the statistical tables of several companies. Even moderate drinkers are not as good risks as abstainers. One never knows when the former become hard drinkers. Risks should be classified as total abstainers, strictly moderate drinkers, those claiming to be such, and immoderate drinkers. The only safe way to deal with moderate drinkers is to reject them.—Medical Record, December 2, 1911.

THE NEED OF A BETTER DEVELOPED OBSTETRICAL CONSCIENCE*

CHARLES E. BOYS, M. D.
Kalamazoo, Mich.

By the term "Obstetrical Conscience," we wish to mean that development of mind which has to do with the generalship and exactness of technique in obstetrics. It is that training which causes us to automatically regard the principles of obstetric practice as we know they should be and in the same degree as other work of a similar nature. The writer desires to state the belief that the general conception of the importance of obstetrics is much below what it should be, as evidenced by actual observations which are made among the profession. It is not the purpose here to consider the practitioner who is untidy in all of his work, but, rather, the one who, for example, does good, intelligent, clean surgery and yet who will commit the grossest of errors when doing his obstetrical work.

Permit me to illustrate this point by citing a specific case which came under my observation, in which a certain man graduated from a first grade medical school, was later interne, and then clinical assistant at the same institution, thus having acquired a proper conception of high grade work. When he entered private practice, he did good surgical work, but, as an example of his obstetrics, the following case which was typical of his work, is given:

After twelve hours of hard labor in a primiparae of 26, and with slight advancement, it was decided to apply forceps. Little or no preliminary study had been given the case. The patient was put across a low bed in her kitchen clothes. The preparation of the patient consisted in splashing some bichloride solution over the unshaven and unscrubbed pubes and perineum, employing for this purpose some fragments of old sheets, unboiled, and, for the solution, an ordinary sink basin which had not been scrubbed or boiled. Preparation of the instruments consisted of boiling the blades of a rusty pair of forceps in a dishpan which, as is usually the case, was too small to allow the handles to be submerged in water and so were only steamed.

The preparation of the doctor consisted of the removal of his coat, one turn upwards of his shirt sleeves and about thirty seconds of washing in the basin just mentioned.

The case proved to be one of contracted pelvis and a most difficult forceps delivery. Extensive lacerations and a long illness followed. Had this case been brought into an operating room, even for so minor a procedure as a curetage or perineorrhaphy, in this unshaven and unscrubbed condition, or had he been asked to do even an ordinary operation without sterile gown, many hand solutions, well boiled instruments, and plenty of assistants, this same doctor would have complained bitterly of the hospital management. The former phase exemplified his obstet-

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

rical, the latter his surgical conscience.

We often find a well developed surgical conscience, but much too infrequently, an obstetrical one. Undoubtedly, many factors enter into this, but, in the writer's mind, the chief cause is the exceedingly low degree of importance as established in the minds of the physicians. How can a patient consider a confinement of much moment when he measures its importance by a bill of seven to ten dollars when the same family has an appendix removed, a far simpler procedure than a forceps operation, and they get a bill of one hundred dollars, which they willingly pay? The very low rate of fees which the physicians have established in obstetrics has made good work in this line almost impossible, as the cost to the physician in both time and materials are so great.

A properly developed obstetrical conscience will consider every phase of the pregnant woman, from the early months of gestation to several weeks after delivery. This consideration is many-sided and includes the care of all complications which may arise, from varicose veins of the legs to albuminuric retinitis. There are two phases, however, which the writer wishes to emphasize as especially important, and these are the prevention of mechanical injury and of sepsis.

A highly developed obstetrical conscience will demand that indications and conditions are all present before an operative procedure is undertaken, and let these decide the time for interference rather than the urgency of other work. I believe that this is one of the hardest parts of obstetrics. We all acknowledge that expectancy is the greatest need in obstetrics, and yet, we so often are reluctant about using it as extensively as we should.

It is, indeed, hard to sit by an obstetrical case and wait while a fracture or an operative case goes to another practitioner, and yet, if we are absolutely true to our patient, we should largely or entirely refuse other work until it is completed. The unexpected termination of some cases, and, still more important, the sudden development of eclamptic convulsions in others, are arguments enough on this point. One case comes to mind where, in a perfectly healthy primipara who had had a perfect course during gestation and whose urine examination was negative, convulsions developed during a pain when labor was nearly completed. Absence from the case on another call, in this instance would have, indeed, been embarrassing.

Undoubtedly, many cases would deliver without lacerations if only given sufficient time, where they receive serious injuries from too hasty delivery. An instance comes to mind where a hasty forceps delivery was made in order to get to a fracture case more promptly. A deep laceration into the peritoneal cavity resulted and then followed sepsis and death in four days, in a primipara of perfect health and uncomplicated period of gestation. This death must be charged up to a thwarted obstetrical conscience because it was not sufficiently developed to offset the temptation to act contrary to best knowledge and judgment. We all acknowledge the correctness of these statements and yet our practice fails to live up to them, as we would in surgery.

It is, however, in the prevention of sepsis that the development of the obstetrical conscience is brought most into evidence, and is of most importance. The writer wishes to say again that an obstetric operation is as important as a surgical operation and deserves the same care. A thorough grounding in surgical principles is, therefore, of first importance and then, to these, we should add the refinements and special procedures pe-

culiar to the work. No doubt but that we could be as carelesss in removing an appendix as we are in obstetrics and still still get good results if, in the former case, we had as good natural drainage established as in the latter. In obstetrics, we are too apt to trust to nature's excellent drainage and immunity for the protection which a careful technique should provide.

Our obstetrical conscience is not developed as it should be until we consider obstetrical procedures on the same plane as major surgery, and demand the same precision in technique. We are very apt to find ourselves going to an obstetrical consultation with a pair of forceps, a few antiseptic tablets, a snap and scissors discarded from our surgical set, to attend and prevent sepsis in a perfectly clean woman. Contrast with this the very elaborate assortment of sterile goods and instruments up to a suit-case full, which we carry when we go over to the next town to remove an appendix, which may have already become gangerous and abcessed. In the former case, the woman is healthy and has a right to demand that she be spared infection and injury, and, if she dies from either of these, we should usually be blamed, while in the latter case, the patient has already gone into a hopeless condition not from our hands, and cannot justly make so great demands.

We should therefore, try to simulate the hospital technique in the home. In the hospital, this is usually on the same grade as surgery, but in the home, the most unwarranted compromises are often met, and this because we usually go into the home too sparsely equipped. If we carry a suit-case full to a surgical operation, we should also carry a suit-case full for confinements. It is surprising in how small a space we can place all the real essentials for an excellent aseptic technique.

Take, for example, an ordinary nineteen inch obstetrical bag. Antiseptics, soaps, sutures, tapes, etc., occupy one side pocket. A copper sterilizer in the bottom holds the larger instruments not used, except for operative delivery; the loops in one lid hold snaps, scissors, tenaculae, needle holder, needles and other instruments used as routine in all cases, while in the second lid is the razor, scales, catheters, rubber gloves, etc. Above the copper sterilizer is still enough room to hold a waterproof apron or trousers, one-third pound sterile cotton in copper can, a pair of wrapped sterile basins and the sterile pack. This pack contains a surgeon's gown, a pair of leggings, for the patient; six towels and cord dressing. With even this supply, one can obtain and preserve a sterile field until labor is ended in the average case, even where operative delivery is demanded.

A few points which I have found as greatly favoring asepsis, I wish to emphasize.

1. Avoid getting pus on the hands at any time. This is possible by letting forceps be your fingers while dressing pus cases, or by wearing rubber gloves which are easily carried in the pocket at all times.

2. Always prepare patient the same as for perineal operation. Earlier, I always asked permission to shave, but now I find it better to go ahead without permission and, while doing it, explain that hair is removed because it cannot be sterilized, that it is removed in all good hospitals and that you propose to give her the same good care at home. If reasoning fails, I demand that they must assume all responsibility if blood poison develops and they usually refuse to do this.

3. The first internal examination is not made until all preparations have been completed and gloves put on, the diagnosis of pregnancy having been previously established. Gloves are invariably worn.

4. Delivery across the bed and in the

dorsal position with hips projecting over the edge. The doctor sits in a chair, facing the patient who rests her feet on his knees. With sterile gown on the doctor, sterile leggings on the patient, a towel above and one below, we have a protected sterile field which can be kept sterile through hours of waiting. Solution and feces fall at once into a tub under the bed instead of into the bed, thus preventing infection from the rectum. The writer believes that this more than overcomes the argument that lacerations are more likely in the dorsal position.

5. A stand covered with a sterile towel for the sterile goods and instruments is a great convenience and aids asepsis.

6. In doing operative work, never do it on the bed unless absolutely necessary. On several occasions, the writer has been called to complete a delivery where failure had evidently been due to neglect of this precaution. A kitchen or other table is almost always present and should be used, as a good position can be had for both patient and doctor.

7. The writer never uses a Kelly pad and rarely ever gets a soiled bed. These pads are both cumbersome and infective and do not protect either the patient or the bed sufficiently. Clean newspapers are more nearly sterile and are not in the way. Often pure white paper in large sheets can be had near paper mills, or paraffin paper can be had beforehand.

8. An assistant, familiar with your technique and present at every confinement, is an essential to the best asepsis. It is best if this be a trained nurse, but this is prohibitive to most physicians. To supply this need and at a cost which is within the reach of an average practitioner, the writer has undertaken to train a young woman into his methods, with the understanding that she is to remain at least one year in his services. By limiting the field of her study, she has acquired in two or three months, a very satisfactory degree of proficiency; in fact, to the extent that she can go in advance to a case, prepare the room, the patient and the equipment and can even diagnose the presentation and position from external examination and the fetal heart tones, and estimate very well when it is desirable for the doctor to come. She can make urinalysis and post partem calls very satisfactorily and thus the patient can get more of them than she might otherwise. When not on obstetrical duty, she does office work, keeps the books and tabulates the literature. This method of employing help is within the reach of most physicians and insures asepsis which cannot be had if the accoucher depends upon himself, or the patient's neighbor, to be his assistant.

Discussion

W. P. Manton, Detroit: I want to say that I endorse every word, or nearly every word, that has been enunciated in this paper. It is one of the best presentations of the subject I have ever heard. For many years, I have insisted on absolute cleanliness, but we know that absolute cleanliness in the ordinary house is not to be obtained; therefore the suggestions made by the doctor are extremely pertinent. I believe what he said in regard to the obstetric fee. It is quite possible that the man who does an obstetric case for $5 or $10 cannot afford to use enough soap and water, and bichloride to keep his hands clean, but it hardly seems probable. Both are cheap. When one gets one hundred dollars for an appendectomy, it is a horse of another color. We, first of all, should teach the patient that what we do in the way of obstetrics is equally as important as what we do in the way of surgery. Obstetrics, nowdays, is very largely surgical.

There are one or two points I would like to mention. I have found what the doctor said in regard to the gentleman who had had such an extenisve and beautiful experience to be very true. I remember several years ago, being

called in consultation with a man, a graduate of a German University, a university where they have wonderful and unlimited material in obstetrics, and yet this man, with all the training which he had, all the material which he had seen, and all the cases he had handled in that institution, had only a pair of old, long forceps, so old and dirty that they were corroded, done up in a newspaper, that was his entire equipment. Just think of that; and in a city, too, where some of us have been preaching antisepsis and asepsis for a long time—and in a case where money was no object. Indeed, after I had finished my work, the husband of the patient came to me and said: "Be sure you charge a good fee". It is often true that a man's education has not very much to do with his ideas of cleanliness, or of methods, or technique. These matters are individual, and the individual is dealing with the case.

The doctor spoke about house arrangements being the same as in hospital. I think the time is coming when every woman who can get to a lying-in hospital, or a good hospital where they take laying-in cases, will go to the institution. This habit is a prevalent custom in Germany and also to some extent in England, and I think it is coming in this country, too. I have many patients who have fine homes with every convenience, and are able to employ several nurses, etc., but who are willing to go to a hospital where they know things can be done better than they can in a private house.

In regard to the preliminary examination; every man who has a case come to him early enough in pregnancy should conscientiously look after that case during the remaining months of gestation. This I have urged repeatedly. The man, however, who is called in consultation, or reaches his own patient at the last moment, when the head is bulging, does not always have time to go into all of the details which the doctor has mentioned. He cannot study the case—especially the consultation case—as he would if he had had the patient under observation for a number of months; but, although he cannot carry out his asepsis as he would like to see it carried out if he had the proper training and experience, he will instinctively get at the facts in regard to the woman's performance and the general condition of things, in a way that no amount of study and observation would give to another, although the second man may have done an extensive obstetric practice.

I have always hesitated in regard to shaving patients where it could be avoided. Of course in operations on the perineum, it is desirable but, if any of you have seen a considerable number of women, you will have noticed that a good deal of unnecessary suffering often results from shaving. Growing hair about the pudendum may cause a tremendous amount of irritation in some cases, and, to avoid this, I have the hair clipped rather than shaved. The doctor has given me a new idea in regard to the clipper. I think that is an excellent instrument to have in one's bag.

There was one statement the doctor made in speaking of the disuse of the Kelly pad. He said he used newspapers, but he did not state that he sterilized them. I take it for granted that he does. Of course, we all know that there can be nothing more likely to be germ-laden than the ordinary newspaper, which passes from hand to hand before it goes to the press room, and after. In the country, I find that men can do all sorts of things that we cannot do in the city. Ordinarily, in city practice, we have a great many "bugs" to contend with that are not met in country practice. At the same time, we do get a very large number of gynecological, abdominal and pelvic cases, coming from the country to the city for repair, that result not from the infection that you get in the country, but from the lacerations, contusions and stretchings that are incident to child-birth. All in all, I want to congratulate the doctor for bringing this matter before the section. It is one of the most entertaining and logical papers I have heard for a long time on this subject.

H. WELLINGTON YATES, Detroit: I do not rise to say anything new or anything more emphatic than what has been said in the excellent paper presented, but only to accentuate that which has already been said, and one or two other things, perhaps. There is so much implied by the word extreme obstetric conscience, that we can hardly go into it at all. There are certain mechanical things that we can do, and the more we get in the habit of doing certain things, the more it grates not to do it, and, if we get in the habit of doing certain things, the use of gloves in particular, this will form one of those essential habits. I think this one of the best papers that can be written on this subject, for obvious reasons. In former times, before the day of antiseptic surgery, the mortality in surgery, or obstetrical surgery was about 8 to 1 in comparison to that done in private practice,

and since that time, the pendulum has slowly changed, so that we have about 8 to 1 in private practice from what happens in modern maternity hospitals. It means that in those old days, they were not acquainted with the knowledge of infections, and the mortalities that came from hospital deliveries. We are acquainted with them now, but while our mortality is cut down from what it was, an astounding mortality is still present and is a reflection upon us who do obstetrics as long as it stays where it is.

So far as the Kelly pad is concerned, I disagree with the doctor. I think it can be sterilized. I don't think the Kelly pad used in obstetrics should be used in general practice at all; it should be kept in some secret place as a special paraphernalia.

One other thing, I think is questionable—the delivery of patients in a cross-bed position; that is, they should not occupy the bed at all under ordinary conditions. A kitchen table can be gotten in any house, and there is no place that you can abuse a patient, or, rather, it is more difficult to abuse a patient on a table where you cannot get your feet and all other sorts of things up for leverage. Just in proportion as you take undue advantage of a patient, just in that proportion will you get not only mortality but you get morbidity. I think there is too much attention paid to mortality and figures of that kind. As a matter of fact, every once in a while, you see some fellow who has had a series of some four thousand cases without one infection. This nonsense means that he has not had one die. He, perhaps, may be honest in that but there can be only a few who can be honest in that. But the question of morbidity is another question, and, as a matter of fact, if those cases were taken care of properly, the field of gynecology would be wiped out. Dr. Smith,* and a few others, would not have anything to do. As a matter of fact, the question of morbidity rather than mortality is the thing that interests us most. We may only lose one once in a while, but the morbidity, the great subinvolutions, the great tears and those things with virulence enough to continue the pathology for so long a time that we have all sorts and chains of conditions that must, at length, go to the operating table and the gynecologist.

W. C. STEVENS, Detroit: I want to congratulate the doctor upon his paper. I have attended many cases of obstetrics, and have picked up a few practical points. I like the paper pad. I have used it many years. As Dr. Manton said, it is an infected sheet. When I was engaged in obstetrical practice, I was unfortunate enough to have a great many cases among what we might call the lower classes, where we could not have an elaborate technique, and this is the way I had my paper pads made: I had the papers ironed thoroughly on an ironing board with a hot iron, as hot as could be used without scorching. Then I had them piled and quilted through and through. It does not take many pages of an ordinary Sunday paper to turn water. Then I had the pads rolled and put in a chest in an unused room or attic, with plenty of formaldehyde. In that way the chest comes to you at the obstetric hour with your pad sterile, and the pads can be placed, one after another under a patient, as required. This will keep the patient sterile and in a cleanly condition. If you wish to have a pad that is very nice, have them cover both sides of it with ordinary cheesecloth, and I think you will find the pad free from germs. I was called in consultation, recently, to a patient I had attended three or four years ago, and I was much surprised to find that she had prepared for her physician a satchel full of these pads.

In regard to the kitchen table, with its cracks and crevices, and its fly-specks, and its grease spots, I would just like to know how long it is going to take to scrape it and have it in a decent condition, and then, of course, it is assumed that you have got a place where you can sterilize a sheet or two, especially without burning—I am speaking now of the great middle class who cannot afford to have their sheets burned up. The way I do is as follows: There are but very few houses in which you cannot find two or three leaves of an ordinary extension table. Have them scrubbed with bichloride and hot water. These you can slip between the springs and mattress and have a good operating table.

These are a few points that some of you who are working in small bed rooms, with surroundings which are not quite what you would wish, may find useful.

CHAS. E. BOYS, closing: There seems to be some discussion as to the sterile condition of the paper. If you will go to the paper mill, you will find that this paper is, first of all, immersed for 24 hours in a strong solution of chloride of lime, to take the color out of the rags and old paper from which the new paper is made. From there it goes into a large vat of chloride

*Richard R. Smith, Grand Rapids, Chairman.

of lime and is left 24 hours more; it is then poured on a screen and rolled through 14 or 16 rollers of superheated steam, which sterilizes it. From there it rolls on the printing press, and the ink is vaseline and sterile and they do not fold the papers by hand any more, so the paper is not touched at all until it gets to your door. And suppose you do use an unsterile newspaper or a dirty kitchen table. That is of the smallest importance, because you don't put a woman on the kitchen table, but it is always covered by something to protect her from pressure injury. You cover this up, and even if you use papers, or the Kelly pad, of course this would be covered with sterile towels, which are carried along.

I want to thank the discussers for their kindly consideration, and those present for their kindly attention.

SURGICAL SUGGESTIONS

American Journal of Surgery.

Tuberculosis of the bones develops in the epiphyses or the joint synovia. An inflammatory lesion in the shaft of a long bone is never tuberculous.

The sooner a long bone is opened in acute osteomyelitis the less the destruction.

The X-ray is invaluable in the diagnosis of bone cortex and periosteal disease. In bone medulla infections it is of little service.

No chronic bone swelling should be subjected to operation without excluding syphilis.

Scrutinize carefully every "fistula" near the anus; a skin-lined sinus in the median line, in front of or behind the anus, is congenital and usually leads to a small dermoid.

A troublesome "erosion" of the cervix may disappear without any other treatment than the replacement by pessary of a coexistent retroflexion.

Uterine curettage has its chief indications in incomplete abortion, metrorrhagia as from submucous fibroids, inoperable carcinoma, etc. Its indiscriminate employment in chronic endometritis is to be condemned.

Chronic tenosynovitis at the wrist may be differentiated from other swellings (e. g., lipoma) by fullness and fluctuation in the palm when the prominent area is pressed upon.

The removal of a wedge of skin at the side of an ingrown nail, as in Cotting's operation, is rarely necessary and usually objectionable. Granulations disappear quickly when the nail segment is withdrawn; if they are exuberant they may be snipped or burned off.

In the presence of a tumor in the right iliac region it is rarely safe to exclude appendicitis from the diagnostic possibilities.

Hemorrhage from an accidental wound in the vulva is usually better controlled by gauze packing than by attempts at ligation.

A chronic gonorrhea in women may be due to uncured disease of Skene's ducts. After these are slit open with a fine scalpel or with the galvanocautery knife, the disease will be cured.

In case of abdominal disease a vague mass in the epigastrium associated with exaggerated distinctness of aortic pulsation at that point suggests pancreatic disease or retroperitoneal lymphatic tumor.

At the conclusion of an operation in which iodine has been used to disinfect the skin field, remove the excess of the drug by wiping with alcohol or either. This may save the patient much discomfort.

In carcinoma of the bowel local signs appear first and deterioration in health later; in intestinal sarcoma impairment of health is first noted and local signs appear later. In carsinoma obstructive symptoms are the rule, in sarcoma the exception. In carcinoma the growth of the tumor is relatively slow, in sarcoma it is rapid.

The Journal of the Michigan State Medical Society

Published under direction of the Council.

PUBLICATION COMMITTEE:

A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
W. J. DuBOIS, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek. (Ex-Officio)

EDITOR:

WILFRID HAUGHEY, Battle Creek.

EDITORIAL COLLABORATORS:

A. P. Biddle, Detroit.
R. E. Balch, Kalamazoo.
T. Klingman, Ann Arbor.
G. L. Kiefer, Detroit.
I. D. Loree, Ann Arbor.
B. R. Schenck, Detroit.
J. B. Whinery, Gr. Rapids.
W. K. West, Painesville.
E. P. Billings, Grand Rapids
F. E. Ruggles, Bay City.

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A. M., M. D., Editor, 24 West Main Street, Battle Creek, Michigan. The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

Subscription Price $2.00 per Year, in Advance.

JANUARY

EDITORIAL

DUES AND SUBSCRIPTIONS

THE dues to the Michigan State Medical Society are three dollars per year, and are payable to the secretary of the local county society, together with the county dues of one or two dollars, as the case may be.

The benefits of membership in the state society have been enumerated so many times that they scarcely need repeating: Eligibility to membership in the American Medical Association, the JOURNAL of the Michigan State Medical Society which alone, we believe, is worth the whole amount of the dues; also defense for civil malpractice, a service for which the commercial companies charge $10.00 to $15.00. This is a defense that is real and that is conducted by some one vitally interested—ourselves.

Dues for the year 1912 are now due and their early payment will secure a continued defense with no break, a continued reception of the JOURNAL with no break, and will enable the state society to conduct its affairs with the minimum of trouble and expense.

At the Bay City meeting the House of Delegates passed a resolution instructing the secretary to, on May 1st, remove from the membership list, and from the mailing list of the JOURNAL all those members still in arrears for the current year's dues. There were many qualms and misgivings of the result of such a radical change in our method of handling of delinquent members; but the result was so good that the House of Delegates at Detroit instructed the secretary to continue the method and to publish in the May, 1912, JOURNAL a list of all those in arrears April 15th.

The membership of the society is now, Dec. 23, 2158, an increase of 179 over last year and 137 more than the society has ever had before. This is a grand showing in the matter of quantity (or numbers) and we are pleased that this increase has been made not at all at the expense of quality. Undesirable men have been kept out repeatedly during the year as they should be at all times. While numbers in an organization are always desirable, no organization can afford to take in, as members, persons of questionable ethics.

Please remit to your county secretary, whose name and address will be found on advertising page XII; and, while we are having this heart to heart talk, do not fail to notify the secretary of changes of address should any be made—and send us news items.

ALPENA MEDICAL NEWS

THE Alpena County Medical Society was reorganized as an integral part of the Michigan State Medical Society on July 25, 1911. It has fifteen members, and an

active set of officers, as witness the above title. The society meets monthly, and has established a Bulletin to publish its programs, announcements, abstracts and discussions. The first number has been received, the December number, and it is a most creditable showing for a society so small, and so young. There are twelve pages and cover, composed of one page of program and call of meetings, three pages of notes and news items, four pages of president's address, and the balance in advertising. It is all bound with a rough blue tinted cover.

The plan of the Alpena County Medical Society as announced in the first number of the *News* is to mail to about two hundred professional people, selected from the physicians, lawyers, ministers, educators, dentists, nurses and druggists. This gives a much larger circulation than mailing to the physicians alone would, and makes the advertising space more attractive.

We have been told for the past several years that medical men are too aloof from the general public, that the laity does not know enough about our aims, ambitions, and problems to appreciate us. We are urged to have public meetings occasionally, to discuss certain things with the public—public health problems and the like. We are also urged to publish occasional articles on these subjects in the lay press. Alpena seems to have adopted an effective plan of placing their aims, ambitions, needs and problems before representative people in influential stations and let us hope the effort may meet with marked success.

We now have five county society Bulletins: The Wayne County Medical Society Weekly; The Bulletin of the Kent County Medical Society; the Bulletin of the Kalamazoo Academy of Medicine; the Bulletin of the Bay County Medical Society and Alpena Medical News. These are all published just before the meetings of the societies. The Kent Bulletin, has, until the present been devoted to organization matters and news items, also publishing the program of the next meeting, but it is now announced that abstracts of papers, and discussions will occupy most of the space. The other bulletins mentioned are devoted mostly to abstracts and discussions.

ETHICS

I. SEVEN YEARS' WORK

SEVEN years ago! How short the time and yet how great has been the change!

Seven years ago the medical man was dished out drugs, nostrums, proprietary preparations, upon the labels of which were all sorts of fraudulent claims of beneficial results in certain specified diseases. The contents of the preparations were not stated, or if they were, in rather indefinite manner. Every medical journal was brimming full of the advertisements of proprietaries, patent medicines and other frauds of a medical nature—probably not every journal but the vast majority.

Seven years ago the American Medical Association, acting upon requests from various sources, not the least of which was one from Michigan, established a Council on Pharmacy and Chemistry to act as a clearing house, upon whose reports the medical man could rely regarding the true composition and true worth of the preparations he was asked to prescribe.

The Council on Pharmacy and Chemistry has been at work for seven years.

The Journal of the American Medical Association editorially, has featured this work. It has urged, in season and out, the value of the work of the Council. It has urged that medical men support this Council by using only such proprietary preparations as receive the approval of the Council.

The rules* adopted by the Council were stringent but not too strict. No manufacturing house need fear the work of the Council or disapprove of this work from the fact that the rules are too stringent. These rules do not cut off useful and desirable pharmaceuticals. They simply restrict those which are in one way or another deceptive; those which are so labeled or so advertised that they may become "Household Remedies," that is, those which are advertised directly or indirectly to the public, those with a statement on the label that certain diseases, etc., will be cured, that they are beneficial in certain conditions, or those given a name which is suggestive of the therapeutic indications, etc.

Any doctor, when invited to buy any proprietary, should be granted the privilege of knowing, not only the potent drugs which the preparation contains, but their quantities. He should be privileged to prescribe this preparation in a way to protect his own practice and his people. The preparation should not be put up in a way that, once prescribed, it becomes common property, leading to all the ills of self-prescribing.

Conditions have changed in seven years. Many of our medical journals are cleaner. A large number refuse to carry advertisements of preparations disapproved by the Council on Pharmacy and Chemistry, and many carry nothing which has not received the distinct approval of the Council.

Much has been accomplished; much more remains to be accomplished. Those upon whom the burdens of this propaganda have fallen have had their sleepless nights and days of doubt when the questions arose: Is this work appreciated? Is this a reform before its proper time? It has been well stated "No great reform can succeed until the general public wants it."

It is pertinent to ask at this time: Does the medical profession wish this reform to continue? But while it is pertinent to ask this question let us not lose sight of the immense good that has already been accomplished, of the hundreds and thousands of doctors who are not using proprietaries not approved by the Council on Pharmacy and Chemistry. Let us not lose sight of the scores of proprietaries which have been driven into a certain class of medical journals. Last but not least let us not lose sight of the fact that many of our foremost lights in medicine are, both by subscriptions and by contributions of scientific papers, supporting some of the journals which are among the worst offenders in the way of their advertising pages; but, while not losing sight of this latter fact, let us remember it to condemn the practice.

Doubtless we are looking forward to an Utopian age when all men, medical and lay, will be ethical—to a time when a true scientific spirit rather than a commercial one will actuate our undertakings. While this Utopia is far away, seven years of endeavor have served to bring it within the field of distant vision. Who can tell what seven more years will do? Or seven times seven?

*See New and Non-official Remedies.

IN MEMORIAM

Louis Fleckenstein, M. D., Detroit College of Medicine, 1889, formerly of Vernon, a member of the Shiawassee County and Michigan State Medical Societies, died at his home in Dertoit, November 14, from cerebral hemorrhage, aged 55.

BOSTON MEDICAL
JUL 2 1913
LIBRARY.

COUNTY SOCIETY NEWS

ALPENA

The meeting of November 17 was by far the most profitable and instructive that the society has ever enjoyed. After a delightful dinner at the New Alpena House, Drs. McDaniels and Small acting as Hosts, the following program was presented:

"Cause of Sudden Death in Typhoid Fever," Dr. Otto Bertram; "Vaccines," Dr. W. A. Secrist; "Presentation of Four Cases of Compound Fracture," Dr. D. A. Cameron; "Presentation of Case," Dr. J. D. Dunlop.

C. M. Williams, *Secretary.*

BAY

At the meeting of November 13, Dr. F. W. Brown, of Bay City, was elected to membership.

The president appointed Drs. Ruggles, Kelley and Gallagher as a committee on the contract for attending the poor of Bay County.

A lively discussion occurred relative to the general efficiency of nurses and hospitals in the city. Ways and means of making the efficiency more perfect were discussed, with the result that the president appointed a committee composed of Drs. J. W. Hauxhurst, C. H. Baker and John M McLurg to examine applicants for admission to the schools, and act as an advisory board in the matter of hospital management.

The paper of the evening was read by Dr. G. W. Trumble on

"The Modern Treatment of Gonorrhea."

Abstract: For descriptive purposes, gonorrhoea is divided into acute and chronic; acute being again divided into acute anterior and acute posterior.

In commencing attack of acute anterior, cleanliness and guarding against infection of eyes is very necessary. Coitus and excessive use of tobacco are interdicted. Light diet and abstinence from alcohol are necessary.

The abortive treatment has been generally abandoned as too severe and liable to failure.

In acute stage mild diuretics or Methylene blue and boric acid are useful. Balsams should not be given at this stage.

The physician himself should give local treatment. Injections of ½ per cent Protargol or 2½ per cent Argyrol, not more than twice daily, retained ten minutes, give best results. For chordee, hot irrigations of potassium permanganate 1-5000 twice daily give relief.

The two glass test should be used every day and stains made from time to time to note progress.

After four or five weeks if gonococci are present in shreds or morning drop, injections of 1 per cent Protargal or 25 per cent Argyrol retained fifteen minutes, should be used once a day. In absence of germs, a mild astringent injection should be used. Patient is not cured until discharge ceases and urine is free from pus and shreds.

Treatment of acute posterior urethritis is rest in bed, saline cathartics, hot sitz baths and urinary antiseptics with antispasmodics as indicated. No local treatment until urgent symptoms have passed.

In chronic gonorrhoea very careful work is required to diagnose diseased portion of the urethra. If a morning drop is present, first stain specimen, then wash out anterior urethra with boric acid solution, collecting washing in first glass, allow patient to pass part of urine into second glass, then massage prostate and have remainder passed into third glass. First glass will contain shreds from anterior urethra if disease is there or elsewhere; if second glass contains shreds it indicates diseased posterior urethra; shreds in third glass indicate disease of prostate. A correct diagnosis can be made in this way in the absence of stricture.

If gonorrhoea is present when disease is in posterior urethra, instillations of 1 to 2 per cent Partargol, or silver nitrate, 2 to 10 grains to the ounce may be used. If disease extends over the greater portion of the urethra, irrigations with 1-10000 silver nitrate are more useful. Balsams may be used in chronic gonorrhoea, sandal wood oil 5 minims three times a day being most reliable.

The following members discussed the paper: Drs. A. F. Stone, McLurg, Tupper, Perkins, Goodwin, Baker and J. W. Gustin.

At the meeting of November 27 the attendance

was very good. The matter of changing the character of our meetings by instituting a system of reviews or articles in the leading medical journals was brought up by Dr. V. L. Tupper. After some discussion favorable to the idea, the matter was left in the hands of the program committee.

The president announced that the Society was invited to be his guests at a dinner to be held in the Wenonah Hotel, Monday evening, December 11th, this being the annual meeting.

The paper of the evening was then read by Dr. V. L. Tupper on

"Exophthalmic Goiter."

Abstract: An average of four thyroid cases daily are operated at the Mayo clinic. The disease is common, but successful treatment has been evolved only within the last few years. Early diagnosis is difficult, but very important. Proper treatment even late in the disease will arrest the disease, but will leave the patient permanently damaged.

The doctor discussed the anatomy of the thyroid and the history of the disease.

The secretion of the thyroid dilates the peripheral vessels, stimulates the growth of long bones, and the gray matter of the brain, thus neutralizing the effect of secretion from adrenals and pituitary body. Excess of secretion, or toxic elements in secretion from diseased thyroid cells probably causes exophthalmic goiter, this abnormal secretion acting as a poison to the heart, blood vessels, muscles and nervous system.

Hyperthroidism develops in the parenchymatous form of diffuse goiter, in which there is proliferation of glandular cells, increase in number of follicles and connective tissue, but decrease in colloid. Because of diminution or destruction of cells in the colloid form, hyperthyroidism does not occur. It may occur in certain nodular forms in which the cells are embryonal in type.

Diffuse enlargement of one or more lobes is usually present, though marked cases following shock, fright, etc., occur with but little enlargement.

Tachycardia is the most important symptom. Moebius states that if explained in no other way, this symptom alone indicates presence of hyperthyroidism.

This symptom, with one of the other cardinal symptoms, makes diagnosis sure, even though symptoms are intermittently present. Overwork, excitement, fright or shock may cause severe or fatal exacerbations.

Tremor is one of the most common symptoms, often being that for which the patient first consults a doctor.

Muscular weakness is always present in advanced cases, showing the effect of the poisons on the tissues. Landstrom ascribes the exophthalmos to a weakness of a new unstriped cylindrical muscle, having its origin in the orbital septum, and over-looked until now by anatomists. Exophthalmos is also due to vein engorgement. This weakness may also produce the well-known signs as well as gastro-intestinal disturbances, though the latter may be due to toxic effect on the gastric and intestinal glands.

The cranial nerves and sympathetics are also affected, hence the nervous phenomena. Flushing and sweating and irregular attacks of diarrhoea are due to disturbances of the sympathetic.

With nervous symptoms predominating, the diagnosis may be missed. Hysteria may complicate the disease and misguide us. All symptoms may be quite variable according as the gland activity varies. As a rule during an exacerbation the gland seems more engorged.

Signs which may aid in diagnosis are: Graefe's sign, lagging of upper lid when eyes are directed downward; Stellwag's sign, retraction of upper lid; Moebius' sign, an insufficiency of convergence; Bryson's sign, peroxysmal dyspnoea, other than that due to severe cardiac weakness, dilation of stomach or anaemia. Loss of hair and lesions of skin are often present.

The thyroid normally by its secretion increases the opsonic index, but in exophthalmic goiter the opposite is true.

In beginning cases, hygienic and medical treatment will cure half. While surgery produces brilliant results, cases should not be rushed to the surgeon too early.

Rest, fresh air, absence of excitement and proper diet are essential. Women should be warned against pregnancy.

Neutralization of the toxin is indicated and the serum from thyroidectomized goats is given in doses of 20-60 min. every 12 hours at first and later every few days.

A meat-free diet, reduction of ingestion of salt, and the use of hydrobromate of quinine are recommended. Phosphate of soda for elimination of toxin has been used.

If no improvement is shown, there should

be no delay in stopping the effect of the poison at once by surgery.

The paper was discussed by Drs. S. E. Gustin, Ballard, Baker, Randall, Hauxhurst, Mary Williams, Goodwin and Perkins.

The Bay County Medical Society, at its annual meeting, Dec. 11, elected the following officers:

President, J. William Gustin, Bay City
Vice-Pres, Floyd H. Randall, Bay City.
Sec-Treas., H. N. Bradley, Bay City.
Mem. Med.-Leg. Com., M. Gallagher, Bay City.
Delegate, R. C. Perkins, Bay City.
Alternate, E. A. Hoyt, Bay City.

H. N. BRADLEY, *Secretary.*

GRAND TRAVERSE

The regular monthly meeting of the Grand Traverse-Leelanaw County Medical Society was held on the evening of Dec. 5 at the country home of Dr. Flemming Carrow. Eleven members were present, also the following guests: Dr. Edmunds of Honor, Michigan, and Dr. Bailey of Traverse City.

Minutes of the last meeting were read and approved. The President appointed the following committees: Program committee, Drs. J. M. Wilhelm, F. P. Lawton and M. L. Gregory. Membership committee, Drs. A. E. Chase, W. E. Moon and G. H. Holliday. Dr. Carrow was admitted to membership in the society.

The program for the evening consisted in discussing interesting cases.

Dr. G. M. Johnson invited the society to meet at his home for the January meeting. After the society adjourned, the members sat down to an elaborate luncheon which Dr. Carrow had prepared. R. E. WELLS, *Secretary.*

ISABELLA-CLARE

The annual meeting of the Isabella County Medical Society was held at the office of Dr. Gardiner, November 15th.

Dr. A. T. Getchell gave a report of his visit to the meeting of the state medical society.

Dr. C. D. Pullen gave his experience in the use of vaccines. Both papers were fully discussed by all the members present.

Election of Officers for 1912 resulted as follows:

Dr. C. M. Baskerville, *President*; Dr. W. A. Sayers, *Vice-President*; Dr. S. E. Gardiner, *Secretary-Treasurer*; Drs. Getchell, Pullen and Johnson, *Directors*; Dr. Michael F. Brondstetter and Dr. Louis J. Burch joined the Society.

S. E. GARDINER, *Secretary.*

KALAMAZOO ACADEMY OF MEDICINE

October 24th, Dr. H. M. Backen of Minneapolis, spoke on

"Public Health as a Problem of the People"

especially dwelling upon the plan of that work, preventable diseases:

Abstract: A very large percentage of our deaths are either from preventable diseases or accidents. This is not a doctor's problem. If you were to look at it from a selfish viewpoint, it is; but it is the function of the physician to relieve pain and cure disease, and not to prevent it.

The question naturally arises: If preventable, why not prevented? In order to prevent disease, we need to know the nature of the infection and the carrying agent. If we know the carriers, we may be able to cure without knowing the others. We have known for years that quinine would cure malaria, but we did not know why. We may prevent without knowing the cause, as we do in smallpox.

In spite of the many research laboratories and workers in them, the prevention of disease is, as yet, in its infancy. In preventing disease it is important to get the first case. The care of this first case would prevent epidemics.

In typhoid fever we know both the prevention and the cure. It is caused by ignorance and neglect. The old idea of prevention was quarantine. Quarantine is a relic of barbarism. It only rarely prevents the spread of disease. It does not reach the carriers. A better method is the isolation of the patient and the carrier. Patients should not be quarantined because they are sick, but because they are dangerous, and they should be quarantined until they cease to be dangerous.

How are patients to be isolated? It is very difficult in the home. A better way is to provide hospitals. These should not be pest-houses, but good hospitals, and should accommodate the surrounding country districts as well. With good roads and automobiles, transportation is practicable for a radius of twenty miles. The cost of caring for a case of typhoid in a hospital would be, say, about one hundred dollars; while in the home secondary cases are liable to develop and may cost five or six hundred dollars, and with more danger of loss of life.

Diseases are not so much air-borne as formerly

believed. This is well demonstrated in the hospitals where "cubicals" are used to separate the different forms of contagion.

We need more trained workers who can discover the carriers. We should have trained inspectors in every state who could go round systematically and co-operate with the health officers and advise them in their work.

Most infections enter the body through the mouth or nose. We can guard these portals by using care with reference to what enters them. Milk is the greatest of infection carriers.

We need more thorough isolation of patients and placarding of homes. We need more thorough quarantine. The rigid methods of the government were to be credited with freeing Cuba and Porto Rico from the fevers. In Hawaii leprosy is fast disappearing. The trouble comes with the states. They do not handle things the way the Federal Government does. Money cannot be had for prevention of diseases in the States.

I consider a strong health department and visiting nurses as the most important in this work. Medical school inspection is needed. This would note defects, watch for preventable diseases, and watch the development of the child. The last is the most important. Under the present system the medical health officer does not draw sufficient salary, and he is liable to be dropped at any time. He must let his practice go, and when he leaves the public work he can not get it back again. You hire policemen to protect your lives and property, but you will not hire health officers and nurses to protect your lives, which are more valuable.

DISCUSSION

Dr. R. L. DIXON, Lansing: Ignorance and negligence have much to do with failure to enforce preventive measures. In one instance, where a family was sick with typhoid, the husband objected to the statement that the well was contaminated from a closet near by. I placed a pound of red dye in the vault, and a week later this man called up and said that his well water had turned red.

In another instance the owner of a dairy objected very boisterously to condemning his milk because he had an employe in the stables and milk-room with active tuberculosis.

We have not sufficient money to properly carry out health measures needed in the state. What we need is enforcement of the present laws. I would advocate a thorough inspection with reference to the industrial diseases. We are going to do this in connection with the labor department, and we are going to try and carry the cure along with the inspection. We are also going to put in an expert in the study of eugenics.

I believe that good results will come immediately from physicians getting together and complying with the health laws of the State of Michigan.

Nov. 14th, Dr. Clara Davis of Lansing, read a paper

"Problems In Infant Feeding."

Abstract: Three main ideas have dominated infant feeding in this country:

1. High proteid cow's milk was responsible for our troubles, thus the elaborate percentage method of dilution.

2. Character or curd, which was modified by cereals, gruels, sodium citrate, etc.

3. Theory of bacterial etiology—gastrointestinal diseases of children; namely, Diarrhœa, ileocolitis and cholera infantum. This led to pasteurization or sterilization of milk.

Ileocolitis, or acute enteritis with inflammatory lesions, is a disease entity, undoubtedly bacterial. Finklestein and Meyer, however, claim carbohydrate metabolism responsible, and can produce or cure, at will, cholera infantum by altering the percentage and character of sugar in food.

The first three years of infant life are predisposed to spasm or spasmophilia. Cathodal electrical reaction of less than five milliamperes is very suggestive of spasmophilia. Chvostek's sign, reflex contraction of facial muscles occurring where the skin from the facial plexus is tapped, is useful between attacks. Children with spasmophilia may be freed from it by milk and salt free diet, but its return may be expected when milk alone is used. Phosphorus combines the calcium, and has a sound therapeutic basis.

Eczema can be made to disappear through salt free diet.

When we estimate the growth of an infant we should use the tape as well as the scales.

Eiweis milk, Finklestein's soup, salt poor diet, offer several and successful methods of modifying the salt contents of milk independently of proteid.

Dr. Jeanne C. Solis of Ann Arbor, also read a paper,

"Panoptosis."

Abstract: Panoptosis is a chronic disease. Chronic as well as acute diseases should receive our attention. Failure in treatment of chronic diseases is a reproach to the profession. Symp-

tom complex: Firstly, interference with static condition of digestive, abdominal and pelvic viscera; secondly, general bodily atony or relaxation; and, lastly, nervous reactions, local and general, accompanying the somatic disturbances. Further, pronounced incorrect attitudes of body, expressionless face, ptoses of stomach, abdominal viscera, diarrhea or constipation, muco-colitis, leucorrhea, profuse or absent menstruation, general fatigue—all these accompany low state of cerebral processes.

Several case histories were read which demonstrated the presence of insufficient muscular tonicity. Muscle tonicity depends upon integrity of muscle fibre and respective spinal cord segments. Failure of digestion and constipation induce auto-intoxication, which, in turn, produces nervous symptoms, thus later a vicious circle. Panoptosis, according to LeDow and Tisserand, results from demineralization of bodily tissues—hypothyroidism. Thyroid as well as calcium therapy relieves conditions. Evolutionary development of special and general muscular system enhances increasing disability.

Treatment, symptomatic: Nux vomica for motor activitity of stomach along with bitter digestants and rest. Intestinal elimination may be estimated by indican test and maintained by calomel, cascara, fl. ext. glycyrrhiza and by intestinal antiseptics. Special dietary must be inaugurated. The therapeutic aim must be to press down the somatic processes into the subconscious realm from which they have escaped in these patients, to conscious realm. Electricity, induced current and secondary of coil in an interrupted manner, and sufficiently strong for contraction, can be utilized.

Electricity over liver increases blood pressure and hepatic function. This stimulates the relaxed muscles to more prompt and normal contraction, and likewise increases spinal cord nutrition.

C. E. BOYS, *Secretary.*

KENT

The ninth annual meeting of the Kent County Medical Society was called to order on the evening of Dec. 13th, 1911, with the president, Dr. D. Emmett Welsh, presiding, and eighty members present.

The minutes of the preceding meeting were read and approved. Dr. R. H. Spencer, retiring councilor for the Fifth District, in a few words expressed his appreciation for the support he had received from the society during his term of office and bespoke for his successor, Dr. DuBois, a like assistance in his performance of the duties of his office.

Dr. G. L. McBride, chairman of the Board of Directors, made the following report.

REPORT OF THE BOARD OF DIRECTORS

It is a matter for congratulation that the harmony and good will prevailing among the members of the society during the past year has made it unnecessary for the Board of Directors to decide any questions of discipline affecting the conduct of members.

No questions of an ethical nature nor any involving the rights or standing of members have been referred to the Board during the year. "Harmony and Progress" seems to have been the watch-word with the result that the purpose of the society to bring into one organization the reputable physicians of Kent county has been more fully realized than ever before.

The high standing of our invited guests and the excellent quality of papers read have been an inspiration to those who have been fortunate enough to hear them, and must inevitably have elevated the standard of medical education and ideals in this county.

The spirit of unity and harmony generated in these meetings and the friendly attitude of the members to one another has been a revelation and subject of comment in this community and has placed the medical profession of this section on a higher pedestal in the eyes of the public than it ever occupied before.

The average attendance of the meetings has exceeded that of any previous year, and at present the finances of the society are in better condition than ever before.

We desire to call the attention of the members to the possibilities of making the Bulletin an important source of revenue to the society. Let every member make it a point to patronize our advertisers when he can conscientiously do so and we can not only command any reasonable price for space, but would have the advertisers soliciting the privilege of using its columns.

During the past year the Board has passed upon the applications of 26 applicants for membership. Twenty-four were accepted and two were laid upon the table. It has not been and should not be the policy of the Board to solicit new members. We believe the secret of success in building up the society lies entirely

in making the meetings so attractive that no one can afford to miss them. How well this policy has succeeded is for you to judge.

We believe that in every respect the year that ends tonight has eclipsed all previous years, and hope that the year upon which we are about to enter will as fully eclipse the present one.

(Signed) G. L. McBRIDE, *Chairman.*
C. H. JOHNSTON.
R. R. SMITH.
D. EMMETT WELSH.
F. C. WARNSHUIS.

REPORT OF THE LEGAL REPRESENTATIVE

By G. L. McBride.

The work of the Medico-Legal committee of the Michigan State Medical Society began with 1910 and to date 41 cases of suit or threat of suit have been reported to the chairman. Sixteen of these have been fracture cases and two dislocations. There is one suit against the estate of a deceased physician which involves also his son, who is in active practice, suit being brought for chloroform death. One suit is against an ex-president of the state society for being present at a post-mortem which, it is now claimed, was not authorized. Two other doctors are involved in this case. One suit is for an unauthorized emergency amputation, one for alleged bad results from bacterial vaccines and one for post operative hernia.

The committee has directly defended but one case and lost it. This was a fracture case with conflicting testimony. The committee hopes to reverse the $1000.00 verdict by appeal. Two other cases were tried of which one was won and one lost. The fund was not liable in these cases, as one was started before our work began and in the other the doctor was in arrears for dues.

It is impossible to state how many cases that have been reported will go to trial. There are half a dozen in different parts of the state where suits have been started, some of which will be tried.

The committee has $3000.00 in the treasury and expects to be able to meet all demands for actual defense. As the work goes on, it will be better understood and appreciated by the profession. Many men need education as to what the committee can and can not do. The committee can provide the machinery for defense but can defend only so far as the law and facts offer defense. Fracture cases form half the cases. This should show that we are not careful enough in treating fractures to safe-guard ourselves by the X-ray and by counsel. An imperfect result means to the laymen only an incompetent doctor and it is impossible to persuade a lay jury otherwise. An X-ray picture showing proper reduction, or reason why a fracture cannot be reduced and maintained in position would protect the doctor. At the present time in Michigan a fracture case which reaches the jury is pretty certain to reach an adverse verdict. What the Supreme Court will do in such cases remains to be seen.

I believe that time will demonstrate that defense by the state medical society will prevent suits which would be pressed against the doctor standing alone, and that as attorneys learn that we have this co-operative defense they will hesitate to harass our members unless the cause for action is based on very strong legal grounds.

Since the organization of the committee, one notice of threatened suit against a member from Kent county has been brought before the committee. This was for alleged malpractice for an unfavorable result in a fracture case. The doctor against whom the suit was threatened made application in the regular way to the committee for defense, but was advised by the chairman, who was not conversant with all the facts in the case, to settle. The doctor refused to compromise and prepared for fight. The case has been dropped and it is presumed that nothing more will be heard from it.

(Signed) G. L. McBRIDE.

REPORT OF DELEGATES TO STATE MEETING

By Dr. J. D. Brook.

The meeting at Detroit was very satisfactory from every side. The 26 members attending from Kent county was quite satisfactory inasmuch as usually about one half that number attend the state meeting. We would, however, urge a larger attendance particularly next year when the meeting will be held in Muskegon.

Since Dr. Spencer's term of office as councilor expired and he declined re-election it became necessary for the House of Delegates to elect his successor. To fill this vacancy Dr. W. J. DuBois of this society was duly elected councilor.

Last but not least Kent county brought home the bacon. A most distinguished gentleman from Kent was unanimously elected president

of the state society for 1912—Dr. D. Emmett Welsh.

(Signed) J. D. Brook.
C. H. Johnston.
W. J. DuBois.

Dr. J. B. Griswold, chairman of the public health and education committee, Dr. H. W. Catlin, chairman of the library committee, Dr. Corbus, chairman of the social committee, all made verbal reports.

Dr. S. C. Graves, chairman of the public health education committee submitted the following report:

REPORT OF THE PUBLIC HEALTH EDUCATION COMMITTEE

Your committee reports having this year taken up the matter of the Van Bysterveldt Medicine Company of this city with the local U. S. Postal Inspector. He states that much has had to be done for the Postal authorities in order to bring about the probability of conviction.

This has been delayed considerably, but is now before the authorities at Washington and a definite statement from them as to the final disposition of the case may be expected shortly. We recommend that the new committee take up and push this matter to its final completion.

Concerning the work done by the various members of this society in delivering lectures on public health matters during the current year before different bodies and organizations in the city or elsewhere, we report the following:

Forty-seven lectures were delivered altogether. They are itemized as follows:

Dr. Frances Rutherford: At Women's clubs 2; at box factory 3; at American Laundry 5; at Mother's Club 1; at Sibley St. School 1; total 12,

Dr. Rosenthal Thompson: at Women's Club 1; at box factory 1; total 2.

Dr. William Fuller: At West Side Woman's Club 1.

Dr. Cora Moon: at Johnson's cigar factory 8; at High School 2; at North End Woman's Club 1; at Mother's Club 1; total 12.

Dr. Maria Norris: at Mother's Club 1; at Women's Club 1; at Palmer Ave. School 1; total 3.

Dr. Burton Corbus: to 60 public school teachers on "The Defective Child" 1.

Dr. T. M. Koon: at Y. M. C. A. 1.

Dr. C. H. Johnston: at different places in the city 12; Stanton 1; Hastings 1; Grand Haven 1; total 15.

It will thus be seen that this committee has done considerable work along the line of its duty. This might have been more, but then it might have been less.

(Signed) S. C. Graves.
Frances Rutherford.
Cora Moon.

SECRETARY'S ANNUAL REPORT

By F. C. Warnshuis

I have the honor of submitting the following as my annual report for the year just closing:

Members enrolled	154
New Members Elected	24
Meetings held	14
Total Attendance	987
Average attendance	70
Papers read	25
Clinical Cases Reported	68
Members entering into discussions of cases and papers	109
Invited Guests	11
Mail matter handled, pieces	5621
Inquiries for information answered	26

FINANCIAL REPORT

Receipts

Membership dues	$713.75	
Collection of Resources	153.31	
Smokers	26.60	
Bulletin advertisements	309.00	
Total receipts		$1202.66

Disbursements

Rem. State Secretary	$426.50	
Paid out-standing debts	137.00	
Smokers and luncheons	117.50	
Printer	212.00	
Secretary's expense acc't	55.13	
Misc. and com. ex	46.25	
Invited guests	24.10	
Rent	50.00	
Total disbursements		$1068.48
Balance on hand		134.18
		$1202.66

with no outstanding obligations or debts.

The above conveys to you in cold figures that which has been accomplished during the past year. Following a precedent established in former years permit me to add the following comments:

THE BULLETIN

This has been mailed to every reputable physician in the county, our advertisers, our guests, and copies have been exchanged with other societies and publications. In all two hundred and fifty copies have been mailed at each issue. Our society having held but fourteen meetings this year but fourteen issues of the Bulletin were published, upon which a net profit of $97 was made.

I believe that we can now say that the Bulletin has accomplished one of its objects; namely, to acquaint every physician in the county with the work of our society and to enlighten him as to why he should become a member. This missionary work should now be discontinued and, in the future, its subject matter should consist of abstracts of the papers presented, together with a stenographic report of the discussion thereon. This service may be obtained for an expenditure of $5.00 per meeting. I trust that this meeting will not be permitted to close without your taking necessary steps to authorize your secretary to engage the services of such a stenographer.

ADVERTISING

It is easy enough to persuade a business man to advertise, providing you can show him how he is going to get a fair return for the money thus invested. Our position is this, and by "our," I mean the society and its members individually. If you want your Bulletin and its profits and its smokers continued you have got to make a determined effort to notice who our advertisers are and not only to notice them but to patronize them, and to let them know why you are doing so. This is a cold business proposition. If you follow this suggestion you can continue the Bulletin, make it larger, run more ads. and reap greater profits.

MEMBERSHIP

This year has seen the election of 24 new members. Our membership roll now contains the names of 154 members and I believe it is representative of the physicians in Kent county. There remain some who, while eligible, are still non-members. Why they do not affiliate, I do not know. They have been invited to our meetings, they have been made conversant with our objects and the value of membership. If, after all this, they cannot see the value of affiliation, I then would recommend that they be permitted to pursue their cloistered existence unmolested and without further solicitation and that, in the future, our meetings be open to members only, for some of them do turn out when we have invited guests and thus enjoy the benefits without affiliation or the payment of dues. All of which is respectfully submitted with a sincere expression of thanks for the honor bestowed upon me.

(Signed) F. C. WARNSHUIS, *Secretary*.

The president now called the vice-president, J. D. Brook, to the chair and delivered his annual address.

PRESIDENT'S ANNUAL ADDRESS

As your presiding officer for the past year I have endeavored to act in justice to all.

Since the re-organization of the Michigan State Medical Society and the Kent County Society it has been a struggle, primarily, for existence. At that time Dr. Whinery was councilor and I succeeded him for two years and was followed by Dr. Spencer.

With the able work of the officers each year has proven a betterment on the previous year and now, as the Bulletin tells us, we have almost reached the topmost rung, almost numerically. There is still room for improvement which the in-coming officers will, no doubt, accomplish.

The society has conferred upon me many honors; first, as councilor; second, your presiding officer for the past year; and lastly, the great honor of presiding at the deliberations of the state society, at its next annual meeting.

I fully appreciate these honors and whether I do or have merited them you alone are to be the judge.

In making this my retiring address, I do not wish to be pushed or lain aside or to be given the "Irishman's Promotion," but I want to and will take an active part in all things medical and am ready and willing to serve.

There are certain things we lack and the time is now ripe for their accomplishment.

First. A club house and library. This has been so elaborately dwelt upon by our secretary in the Bulletin that I will not further burden you. I will be one of you at any time to push it along and add any pro rata.

Second. A revival of the suggestion made by Dr. Rozema in his presidential address, as to the necessity of an ambulance surgeon on our public ambulance.

Third. The establishment of a biological department at the State Board of Health for the purpose of making a Wasserman's test for indigent cases. Since the curative power of

Salvarsan is so well established the importance of this measure is easily understood.

Fourth. The public health education committee of the state society of which Dr. Rutherford is chairman and Dr. Moon a member, has prepared a program for the coming year which will bear good results. We should all lend our aid as its work is as important as that of the tuberculosis committee and truly preventative.

Fifth. As the Grand Rapids Academy of Medicine and the Kent County Medical Society are so intimately connected, I believe the program committees should confer, thus preventing a repetition or similarity of papers or essayists from out of the city.

Sixth. The importance of delegates to the state society should be borne in mind. Certain ones should be kept in that capacity, as better service may thus be obtained, and further, the secretary of the society should always be a delegate.

All of which is respectfully submitted.

D. EMMETT WELSH.

ELECTION OF OFFICERS

The following officers for the ensuing year were then elected: *President*, Burton R. Corbus; *Vice-President*, O. C. McDonnell; *Secretary-Treasurer*, F. C. Warnshuis; *Assistant Secretary-Treasurer*, E. W. Dales; *Legal Representative*, G. L. McBride; *Delegates to the State Society*, F. C. Warnshuis, J. D. Brook, R. H. Spencer; *Alternates*, L. A. Roller, S. L. Rozema, A. J. Baker.

Moved by Dr. Patterson, supported by Dr. Griswold, that the secretary be voted an honorarium of Fifty Dollars.

Moved by Dr. DuBois, supported by Dr. McBride, that a committee of three be appointed by the chair whose duty it shall be to submit to the society plans and means for the obtaining of a medical club building. Carried.

The chair appointed as such committee: Dr. G. L. McBride, chairman, R. R. Smith, T. C. Irwin.

Moved by Dr. Schurtz, supported by Dr. Welsh, that the secretary be instructed to correspond with the secretary of the State Board of Health relative to the recommendation made in the president's address regarding the making of Wasserman's tests by the State Board of Health. Carried.

Moved by Dr. Schurtz, supported by Dr. Kinsey, that the chair appoint a committee of three who shall confer with the police and fire board relative to the employment of public ambulance surgeons.

The president elect, Dr. Corbus, was escorted to the chair by Drs. Barth and Graves.

There being no further business the meeting adjourned.

F. C. WARNSHUIS, *Secretary.*

MUSKEGON-OCEANA

Regular meeting of the Muskegon-Oceana County Medical Society was held with Drs. F. B. Marshall and P. J. Sullivan, Friday, Nov. 10th, 1911, at the Occidental Hotel.

A surgical clinic was held by Dr. Marshall at Hackley Hospital at 1.30 P. M.

Dinner was served at the Occidental Hotel at 6:30 P. M., and the meeting was called to order by the president at 8:00 P. M.

Members present: Drs. Geo. S. Williams, F. B. Marshall, W. L. Griffin, R. G. Olson, I. M. J. Hotvedt, P. A. Quick, J. T. Cramer, W. A. Campbell, P. J. Sullivan, L. I. Powers, and V. A. Chapman.

Drs. DeHaas of Fremont and Burns of Fremont were visitors.

Minutes of the last meeting were read and approved as read.

Dr. P. J. Sullivan read the paper of the evening on, "Intestinal Obstruction." The discussion was opened by Dr. Marshall, followed by Drs. Griffin, DeHaas, Burns, Williams, Hotvedt and others.

Meeting adjourned.

Regular meeting of the Muskegon-Oceana County Medical Society was held at the Occidental Hotel, Friday, Nov. 24th, 1911, as the guests of Dr. V. A. Chapman.

Dinner was served at 6:00 o'clock and the meeting was called to order by the president at 8:00 P. M.

Members present: Drs. Geo. S. Williams, L. N. Eames, I. M. J. Hotvedt, Jacob Oosting, P. A. Quick, P. J. Sullivan, J. F. Denslow, A. A. Smith, J. T. Cramer, L. I. Powers, W. P, Gamber, R. G. Olson, G. J. Hartman, W. L. Griffin, J. D. Buskirk, J. M. Vander Ven, and V. A. Chapman.

Dr. H. W. Woodruff of Joliet, Dr. Gerling of Reeman and Dr. H. C. Parker of Hackley Hospital were visitors.

Dr. H. W. Woodruff of Joliet, read the paper of the evening, his subject being, "Injury to the Eye," dealing especially with perforating wounds.

The discussion was opened by Dr. Gamber who was followed by Drs. Hotvedt, Chapman and others. Dr. Woodruff closed the discussion.

It was moved, seconded and carried that the executive committee appoint committees for the work of the state meeting to be held at Muskegon the coming year. These appointments to be subject to the approval of the Society at the next meeting.

Meeting adjourned.

V. A. Chapman, *Secretary.*

OTTAWA

The regular December meeting was held Wednesday evening, December 13, at the Colonial Cafe in Grand Haven. The meeting was a very enthusiastic one. Twenty-two members and guests were present which is a record breaker for Ottawa.

After dinner was served the society very happily surprised Dr. A. Van Der Veen of Grand Haven, by presenting him with a handsome gold-headed, ebony cane. Dr. C. P. Brown of Spring Lake, presented the gift. He spoke with a great deal of feeling, of Dr. Van Der Veen's faithfulness and loyalty to both his profession and the physicians with whom he associated. Dr. Van Der Veen responded in a manner which fully expressed his appreciation of the tribute which had been paid him.

Dr. E. S. Walkley of Grand Haven, was then introduced as toastmaster. Most of his ready wit was turned loose on Dr. Brown, long a bitter foe across the dinner table.

Dr H. Kremers of Holland, spoke on the subject. "The Physician and Politics." He emphasized the fact that physicians who are able and who are independent, ought to give some of their time to politics and take an active part in the struggle for better health legislation. He encouraged the candidacy of Dr. E. Hofma of Grand Haven, for the state senate, and urged that we do all we can to help nominate him.

Dr. E. Hofma spoke on "My Experience with So-called Christian Science." He quoted largely from the book "Science and Health," and also from Mark Twain's interesting Christian Science story.

Dr. A. T. Godfrey of Holland, spoke on, "The Relation of the Physician to the Board of Health." He urged the physicians to be more careful in supporting the health authorities; and to be more thoughtful in what they say to patients, not to discredit the rules of the Board of Health.

Dr. J. F. Peppler of Byron Center, President of the Society, spoke on "What Should We Aim to Accomplish During the Coming Year." He gave a brief outline of the aims of the American Medical Association, and the Michigan State Medical Society. He urged that we strive to work in harmony with them as nearly as we can for the betterment of our profession.

A resolution was then unanimously adopted that we approve of the candidacy of Dr. Edward Hofma of Grand Haven, for state senator to represent Ottawa and Muskegon counties, and that we pledge our support and do all we can to help nominate him on the Republican ticket:

Whereas, We believe that the science of medicine has done much for the promotion of health and happiness, perhaps more than any other science; and

Whereas, We believe that much can be accomplished in the future in preserving health and promoting happiness by enacting proper laws that will aid in the struggle for the prevention of disease; and

Whereas, We believe that our state legislative body should be composed in part of men who are thoroughly acquainted with the science of medicine and health, and can therefore better appreciate the importance of its promotion as well as the promotion of other problems; and

Whereas, Dr. Hofma has signified his willingness to sacrifice personal ambition and respond to the call to enter the broader field of service in the interest of the people of the state of Michigan; and

Whereas, We know him to be a man of sterling worth and true to his convictions, be it hereby

Resolved, That we, as members of the Ottawa County Medical Society, approve of his candidacy, pledge our support and urge upon the voters of Ottawa and Muskegon counties to help nominate him as a candidate for the state senate on the Republican ticket.

William DeKleine, *Secretary.*

TUSCOLA

The Tuscola County Medical Society met at Hotel Montague, Caro, Dec. 11, 1911. The program consisted of a paper on "Rectal Fistula" by Dr. Wm. L. Dickinson, Saginaw, and a paper on "Diagnostic Hints in Mental Diseases" by Dr. C. B. Burr, Flint.

W. C. Garvin, *Secretary.*

WAYNE

At the general meeting on November 6, 1911, Dr. Robert G. Owen read a paper, illustrated with a printed chart, on "The Present Status of '606.'"

In the absence of the secretary, Doctor Jamieson, Doctor P. M. Hickey was appointed by the chair to act as temporary secretary.

One hundred and twenty-seven members were present.

The Present Status of "606"

By Dr. Robert G. Owen.

While we can now speak concerning the immediate effect of "606" it will take years to determine its true value as a curative agent in syphilis.

Two facts, however, have been clearly shown: 1st. That Theapia Sterilizans Magna, the eradication of syphilis with one dose of "606," has most certainly not been realized. 2nd. That in "606" we have a most valuable adjunct to our present armamentarium syphiliticum.

Whatever method of administration be followed, few, if any, cases of syphilis will be cured by the present average dose.

The early reports were most enthusiastic, but further observations on these cases have shown a disappointingly large number of relapses, especially where the cases have been followed serologically, as often a positive blood reaction will be the only symptom remaining, as the drug has a marked tendency to convert an active syphilitic into a latent one.

We have followed serologically and clinically 65 cases of lues, of whom three were cases of general paresis in whom no improvement was shown. In the remaining 62 cases, in all stages of lues, 26 or over 40% have shown clinical relapses, or have still continued to give a positive blood reaction. Many more of these cases will undoubtedly show relapses in the future, as some of them have only been observed for a month or two. Other observers including Fox, Politzer, Trimble, Wolbarst, Fordyce, and many others, have found an equally large percentage of failures after "606".

"606," however, has a most prompt and remarkable action on most syphilitic symptoms, and this action is due to an actual destruction of the parasites. Its destructive action on the treponemata pallida is more marked than that of mercury. KI has been shown to have no effect on the germs.

The remedy should not be used where any contraindications are found.

Its use is advisable in cases which have resisted mercury, where prompt and immediate effect is very essential, and, in general, to promptly render active primary or secondary lesions less infectious.

The consensus of opinion at present favors the giving of one, two or three intravenous injections, preceding and following these with inunctions or hypos of mercury.

CONCLUSIONS

1. In "606" we have the most potent weapon for combating syphilis that the world has known.
2. A single injection of the present advocated dose of "606" will cure few, if any, cases of syphilis.
3. The earlier the stage of the disease the more favorable the results attained.
4. Whether the more vigorous use of the drug as now advocated will cure syphilis has not yet been determined.
5. The intravenous method is, at present, most strongly advocated.
6. The present ideal treatment is the giving of several intravenous injections preceded and followed by mercury.
7. All cases should be followed serologically as a positive Wassermann may be the only symptom remaining after "606" medication; its continued presence or return after a negative phase foreshadows a relapse.
8. No dependence should be placed on a single negative Wassermann reaction, as the blood may take several months to return to positive.

DISCUSSION

H. R. VARNEY: This much discussed drug is still under fire and the ultimate percentage of cures can only be accurately estimated by the coming generation through careful post-mortem examinations of the syphilitic patients to whom this method of treatment has been administered. The first hope of Ehrlich, that a single mass dose would sterilize, or kill all of the specific organisms in the affected body in one fell swoop and that small repeated doses of the drug might produce an acquired immunity in the organism, has not been borne out clinically or serologically.

Multiple frequent doses seem at present to be the method of successful administration of the drug. Recurrences following the administration of a single dose in all stages which have thus far been reported are from 25% to

65%. In only those cases where the drug was administered early in the existence of the primary lesions has the percentage of the control been large from the administration of a single dose. In this stage of the infection a larger percentage of cases have been treated only with Salvarsan, therefore a more careful clinical and serological control could be observed. Through pathological changes occurring from the prolonged systemic infection from syphilis, it would not be rational to expect that one dose of the drug which is in the body so short a period of time could reach the organism in this pathological structure that is so thoroughly walled off from the blood stream. While some of the ideas of Ehrlich regarding the therapeutic action of this drug have not been realized, yet after two years of extensive clinical tests it is universally conceded that we now possess in this drug the most powerful agent in the symptomatic control of syphilis.

In animal experimentation the drug has demonstrated that it possesses a parasitatropic action for the organism which causes its rapid destruction. In the congenital new-born, where the salt is administered and the patient succumbs, the microscopic examination of the different structures show death of the treponemas and disintegration of the organisms taking place within 24 hours after its administration.

While my personal experience of fourteen months with Salvarsan has been small in comparison with the reports of many syphilographers in the large centers, my first hundred cases which were selected for administration of this drug with but two exceptions were private cases. The opportunity to carefully observe, clinically and serologically, from week to week, this class of patients, is far more valuable than many hundred out-door clinical patients who do not realize the importance of treatment or the gravity of infection, and who are lost sight of in a large percentage of cases directly following its administration. In this series of cases which are now being tabulated, all, without exception, have been submitted to one or more Wassermann tests before the administration of Salvarsan, and repeated tests after, care being taken that the test was uninfluenced for weeks preceding by other medications or alcohol. Unless careful estimation of the blood content be made before the drug is administered the value of the readings following its administration have been diminished as a therapeutic guide, materially.

Repeated blood examinations by the Wassermann test are without question a most valuable guide (if freqeuntly repeated) in the therapeutic management of the syphilitic, and further, the administration of the iodide of potassium from five to seven days preceding the test renders the result from the reading far more crucial. If the organism in the latent case is thoroughly walled off by, perhaps, an obliterating endarteritis and the organism is in perfect harmony with the host, the administration of the iodide of potassium in rapidly increasing doses will break down and throw into the blood stream such walled off conditions and often render a negative Wassermann of months markedly positive. The Wassermann test is gradually reversed from a strongly positive to a negative in from three to eight weeks in a large percentage or cases following the administration of Salvarsan. A continued negative test depends much upon the stage of the disease and the methods of treatment.

In the latent stages of syphilis with a distinct clinical history with no active symptoms present and the Wassermann tests repeatedly negative after iodide administrations, the globulin test of Noguchi should be employed. Some investigators believe this test appears earlier and lasts longer than the Wassermann test, and therefore is more valuable as a check test.

The strongest proof we yet possess in regard to the curative action of Salvarsan is in the reinfected cases. L. Geyer and R. Krafting cite positive proof of three reinfections following the administration of Salvarsan. With our present knowledge, early treatment affords the largest percentage of cures. Every primary lesion should be submitted to the dark field illumination for the demonstration of the organism. Repeated Wassermann, when possible, and submitting the excised tissues to further microscopic examination, tests made as early as possible, and if these two tests are positive, excision of the lesion. Salvarsan should then be administered at once and repeated upon this evidence. With such treatment we are able to modify or abort the secondary symptoms and greatly lessen the possibility of infecting others."

A. P. BIDDLE: Hardly any physician who has witnessed the results obtained with the use of Salvarsan doubts its efficacy.

Experience, however, having shown that the single injection of the present advocated dose fails in a majority of cases to cure syphilis not only serologically but clinically, it is necessary

to repeat the injection of the Salvarsan once or twice and preferably to combine this treatment with a course of mercury by inunctions or injections, and, in some of the later cases, with the iodide of potassium, as conditions may indicate in the individual patient.

The intravenous route, (which we now have almost exclusively adopted) is, for many reasons, the preferable. The attending pain is less (sometimes nil); the reactions and the danger of complications are sooner over; the patient may leave the hospital or bed in 3 to 5 days; there is no danger of sloughing if the technique be proper; the arsenic is eliminated within a few days; and, serologically, the results are for the better, the Wassermann reaction remaining negative for a much longer time.

Theoretically, all cases should be submitted to the serological tests as frequently as is deemed advisable; but, unfortunately, many of the patients cannot stand the expense of repeated laboratory tests, and the physician must, therefore, often rely upon the clinical evidences.

C. M. Stafford: While agreeing with the speaker, that Ehrlich's hope of a sterilizans magna has not been generally achieved, I feel certain, however, that its failure of achievement can in no wise be laid up to the drug itself or to Ehrlich.

McIntosh, Fildes, and others have proven beyond question, that the drug is powerfully destructive to the treponemata. A bullet fired from a gun has been proven repeatedly destructive to animal and bird life, but who would think for an instant of hunting moose with birdshot. No more sensible, I believe, is the manner of giving Salvarsan today.

And yet that is exactly what we are doing. A ninety pound woman presents herself for treatment and is given a dose of .6 gm. of Salvarsan; a two-hundred pound man comes under our care and gets the same amount.

Some workers are giving far larger doses than that which we, at present, are considering the proper one, and with benefit to their patients. If a rabbit which weighs approximately four pounds, with a blood injection of treponemata, requires one-sixth of the average human dose of Salvarsan to free it of its infection, it would seem that the optimum amount to be administered a human being would perhaps be greater than we now consider it.

Then, too, an early case of syphilis is far more amenable to Salvarsan treatment than is a case of long standing infection. In the former, the spirochaetes have not yet become difficultly accessible and hence are more surely destroyed and by a smaller dose than is the case in chronic infections. In the latter we face a very similar condition to that encountered in the treatment of chronic bacterial infections of bones and bony cavities.

In chronic infections where the infectious elements are so effectively surrounded by a protective wall and where, at best, the drug is only in the circulation for a short time, it can scarcely be expected that one dose will destroy them. In these chronic cases, therefore, it is to be expected that repeated doses will be necessary.

The mode of administration is also an important consideration from both the therapeutic and practical standpoints.

In the case of primary or early secondary manifestations, it would seem that the intravenous route were preferable. The organisms are then free in the blood and lymph systems, and hence, are easily destroyed. Indeed, it seems to be generally conceded that such cases are in the majority among those rendered permanently Wassermann-negative.

In the more chronic cases, however, in which many of the organisms are effectively protected because of the small amount of Salvarsan-bearing lymph which is able to reach them, it seems to me that the intramuscular route is the preferable one. In this instance, exposure for a longer time to a weaker concentration of the drug would seem to be the best.

Of course, against this mode of administration is urged the danger of the exposure of the animal body to a slow arsenical poisoning, since it has been determined that when the intravenous method is employed, the arsenic is very rapidly eliminated, while in the case of the intramuscular, it may be detected in the urine for some time. However, in my experience of forty-seven injections, and some patients have received three and four injections, I have yet to note a practical manifestation of this theoretical fear.

We must acknowledge that many of our patients are financially unable to bear the expense attached to intravenous administration. To them and to the average practitioner, the intramuscular route will remain the preferable one.

And at this juncture let me say that the pain which accompanies the intramuscular injection is not as important a feature as most of us imagine. To be the least painful the drug must be freshly prepared. Oxidation is so rapid that it will not do to have it prepared at an apothecary shop and administered to the patient an hour or two later. To this fact I believe much of the pain and some of the sloughs are due. The physician can prepare his own Salvarsan better than the druggist, and, when carefully prepared as to alkalinity, and administered fresh, the procedure is easily and safely carried out in the patient's home or in the physician's office. If Salvarsan treatment is to occupy the position it deserves, it must be given in such a manner as to be the least painful and the least expensive. Then its administration can be pushed to the desired degree. In my experience if the drug is so injected immediately after its preparation, and its alkalinity is carefully attended to and the injection made deep into the gluteal muscles, the patient will complain of very little discomfort, even on the third or fourth day.

A. P. OHLMACHER: I have availed myself of the serologic control in but one case of refractory secondary syphilis, treated as is my custom, with three intravenous 0.5 gm. doses of Salvarcan.

From the standpoint of clinical observation, I have now had quite an extensive experience, the result of which has been to change my original attitude of conservatism to one of decided optimism as regards the therapeutic value of Ehrlich's specific. In secondary and tertiary syphilis under varying conditions and diverse lesions I have obtained results that have exceeded my fondest expectations. My technic has been exclusively that of the intravenous method with its great advantage of rapid drug effect, painlessness and freedom from after results. Whenever I commanded the situation I have resorted to three injections averaging 0.5 gm. of Salvarsan at intervals of two or three weeks.

Doctors Joseph Sill and William E. Keane also discussed the paper.

At the meeting, Nov. 13, Dr. Herbert M. Rich reported a case of Paroxysmal Tachycardia, this being the second case occurring in his private practice. The first case was also reported to this Society in February, 1910, and subsequently published in the Journal of the American Medical Association, June 14, 1910.

Dr. David Ingilis read a paper on "Some Therapeutic Problems with Reference to Blood Pressure."

Dr. James Cleland, Jr., and Dr. R. L. Clark acted in their regular capacities as chairman and secretary of the medical section. Fifty-four members were present.

At the general meeting on November 20, 1911, Dr. H. W. Hewitt read a paper, illustrated with the steropticon, on "The Operative Treatment of Retrodisplacements of the Uterus."

Dr. Samuel Amberg, Associate Professor of Pediatrics in Johns Hopkins University, as guest, addressed the Society, taking as his subject, "Some Observations upon a Few Phases of Breast Feeding."

Dr. W. F. Metcalf demonstrated two specimens recently removed in his operative work, the one a proliferating, papilliferous cystadenoma of the ovary, the other a fibroid uterus coincident with a dermoid cyst of the ovary in the same patient.

The following persons were admitted to membership upon vote of the Society, they having been recommended by the Board of Trustees:

Associate, Carl C. Worden.

By Transfer, Frederick Edmister, David J. Levy.

Active, Louis C. Baribault, D. D. Costigan, Wm. G. G. Coulter, E. K. Cullen, X. A. Jones, E. T. Milligan, C. C. Wright, F. X. Zinger.

The chairman, Dr. Walker, appointed Dr. Carstens to act as temporary secretary in the enforced absence of the secretary, Dr. Jamieson.

Seventy-five members were present.

Some Observations Upon a Few Phases of Breast Feeding

By. Doctor Samuel Amberg.

Breast feeding is not always a simple matter, and since it affords the infant a greater chance for life and health, it is very essential that the study of the technic of nursing in its widest sense should receive very close attention, much more than it has received hitherto A few phases of this problem are considered.

All the data at our command gleaned from clinical observation as well as from animal experimentation, speak in favor of larger meals and greater intervals from the start and against the recommendation of a two hour schedule even for a few weeks. A smaller number of meals are of advantage alike to mother and in-

fant. Adopting a regime of five meals—only to be changed when necessary—it will be possible to keep a larger number of infants at the breast. Night-feeding should only be given when circumstances demand it and not as a rule. The duration of the single meal is determined by the baby, who should never be induced to nurse longer than it shows evident desire to do so.

When lactation is delayed, we should not resort to regular artificial feeding too soon, keeping in mind that suckling is the most potent stimulus for lactation and that lactation has been established successfully after a fortnight or more. It is frequently possible to establish a lost lactation by persistent suckling. Milk stasis has to be avoided.

Over-feeding and under-feeding cannot always be differentiated. We may distinguish two types of under-feeding; one, where the quantity of milk would be sufficient but the quality is poor, and one where the quantity of milk is insufficient. In the first instance a milk analysis is desirable. The method of collecting the milk for analysis is just as important as the analysis itself. The analysis of samples of milk taken at random is absolutely valueless.

Aside from determining the amount of food taken by the infant by weighing it before and after nursing, the examination of the urine may be of value, particularly with reference to the determination of phosphoric acid, glycuronic acid and the index of reduction. The danger of over-feeding can be demonstrated strikingly by the diagrammatic illustration of von Pirquet.

The Operative Treatment of Retrodisplacement of the Uterus

By Dr. H. W. Hewitt.

There are many types of operations for the correction of retrodisplacements of the uterus.

The Alexander operation, in simple, uncomplicated cases, fulfills the indications.

Ventrosuspension and vaginal operations should be performed only after the climacteric, or in patients in whom the possibility of pregnancy is out of the question.

Operations upon the sacro-uterine ligaments have not been sufficiently developed to be considered.

Intra-abdominal operations for shortening the round ligaments may be divided into two classes; viz., A. Those which depend upon the proximal or strong portion of the ligament for support. B. Those which retain the distal or weak portion.

An ideal operation should fulfill the following requirements: 1. It should be based upon strong anatomical and mechanical principles. 2. It should be adaptable to all displacements. 3. It should leave no raw or injured surface. 4. It should leave the parts in such condition as to permit of evolution during pregnancy and involution thereafter. 5. It should leave no transperitoneal bands. 6. It must substitute no new pathological condition. 7. It must be safe and easy of performance. 8 It must possess the least possible morbidity. 9. It must assure us of permanency of results with or without future pregnancy. 10. The incision necessary for its performance should permit treatment of co-incident affections.

From the number of operations which have been introduced for the correction of displacements, it is evident that none of these have been exactly what was necessary in all cases.

Of the operations in class A there is one which is anatomically and surgically correct and which fulfills, more nearly than any other, all of these requirements.

This is the operation performed with minor differences in technic, by Amann, Hoffmeier and others abroad, and Barrett, Mayo, Simpson and others in this country.

The technic is briefly as follows: Abdomen is opened in the median line just above the pubes. Co-incident intra-abdominal affections are dealt with. The ligament is picked up at a point ⅔ of the distance from the uterus to the internal ring, and a traction suture thrown around it.

The edge of the rectus sheath close to the lower angle of the incision is grasped and a forcep is passed to the internal ring, where it follows the round ligament to the traction suture. The peritoneum is here punctured, the forcep is passed through and grasps the suture. The ligament is now withdrawn and stitched to the under surface of the anterior sheath of the rectus with catgut.

This operation has the following advantages: It leaves no opening for strangulation of the bowels and no raw surfaces where adhesions may form. The ligament leaves the abdomen at its normal place and utilizes the normal structures as a pulley. The uterus is now held by the strongest part of the round ligament, a ligament which has capacity for evolution during pregnancy and involution thereafter.

It may be employed where there are intra-abdominal complications of any extent. It does not create new pathological conditions and forms no new ligament. It shows high efficiency for holding the uterus forward and yet allows a normal range of movement. It renders tense the anterior leaflet of the broad ligament which is almost invariably relaxed in retrodisplacements of the uterus.

At the meeting of the surgical section, November 27, 1911, Dr. C. D. Brooks read a paper, illustrated with diagrams and X-ray plates, on "Calculi in the Urinary Tract."

Dr. William J. Cassidy also read a paper on "The Diagnosis of Genito-urinary Conditions by the Cystoscope and Ureteral Catheter." This latter paper was also illustrated by charts and X-ray plates.

The Reporter is unable to present an abstract of the above paper because of failure on the part of the author to get it to him in time for publication.

The chairman and secretary of the section, Drs. Alexander W. Blain and George H. Palmerlee, presided.

Ninety-three members were present.

Calculi in the Urinary Tract

By Dr. C. D. Brooks.

One of the most common and dangerous conditions of the kidney is calculus. In many instances of irritation from inpacted calculus, we have a destruction of the entire kidney, or if such calculus becomes lodged in the ureter, we have a train of symptoms brought about in which the function of the kidney is temporarily or permanently impaired.

Calculi in the kidney are formed from two causes; general and local. Among the former are improper diet, inefficient water, character of the water, deficient exercise and the use of alcohol, etc. Local causes are enlarged prostate or stricture, foreign bodies, inflammatory conditions, blood, bacteria, and spinal diseases. Calculus may exist in the kidney and cause no symptoms, but, as a rule, it causes more or less irritation, followed by inflammatory results, such as pyuria, chronic or acute nephritis or pyelitis. Such conditions are followed by pyonephrosis and hydronephrosis, which, if long continued, lead to the destruction of the entire kidney.

The chief symptoms of renal calculus are frequent micturition, pain, local or radiating, hematuria, pyuria. The pain is often accompanied by prostration and is made worse by exertion. Following the lodgement of calculus in the ureter we may have calculus anuria, either from calculi in both ureters or calculus in one, which causes a reflex anuria of the other. The history of the patient if carefully taken, is of inestimable value as an aid in diagnosis, and this will be sufficient to make the diagnosis in a large number of cases. However, we should never make a positive diagnosis from the subjective symptoms but with the aid of the X-ray and ureteral catheter, can make a positive diagnosis in 95% of the cases.

Calculi in the ureter are very dangerous and if the entire lumen is occluded we have a calculi anuria.

Operations upon the kidney or ureter should never be performed without first making an examination of the other kidney by means of the cystocope, and segregation of the urine by means of the ureteral catheter. By this means we are able to place surgical diseases of the kidney upon a rational basis, and many errors will be avoided if such examination is included as a routine practice. All calculi in the kidney or ureter should be operated upon as soon as diagnosis is made except in extraordinary cases, among these being small stones which we may treat expectantly for a time. The prognosis is good in all cases without complications. In event of nephritis or extensive damage to the kidney parenchyma, the prognosis will be in direct ratio to the pre-existing pathology.

Doctor Metcalf, in opening the discussion, said: "Dr. Brooks says that in twenty per cent of the cases the stone is present in both kidneys. This fact makes nephrotomy preferable to nephrectomy even though the kidney being explored has but a small amount of secreting tissue. It goes without saying that the functionating capacity of the other kidney be determined previous to the operation. In multiple abscesses from other causes nephrectomy is frequently the operation of choice because of the impossibility of perfect and complete drainage. Where abscess is not found in kidney substance, the stone should be removed through an incision made into the posterior wall of the pelvis of the organ and longitudinal

to its blood-vessels. Whenever possible, the opening in either kidney, pelvis or ureter should be closed.

"Dr. Brooks speaks of cases in which the presence of stone causes no symptoms. Unless a careful history is taken symptoms may be overlooked. Digestive disturbances are frequently found because of the close connection of pneumogastrics with the renal plexus. Stones should be removed as soon as diagnosis is made if there exist no contra-indications, because of the danger of resulting cancer. I have seen several cases of cancer of the prostate in presence of stone. These micro-photographs show the direct causal relation between stone and cancer in the urinary tract and demonstrate the truth of Virchow's observation that the irritation of a foreign body may cause a change in the epithelium and the development of papillae. The patient, a man, aged 47, gave history of having had repeated attacks of renal colic from childhood, the intervals being at times as long as ten years. Photo No. 1 shows non-malignant papillary growths in kidney pelvis where the stone was formed. In some parts, the transitional epithelium is seen to be changed into columnar. Serial sections of the ureter showed progressive change in character of the epithelium until at the point of lodgment of the stone in the ureter near the bladder, adenocarcinoma was present, as shown in photo No. 3. He subsequently died of metastases.

"Diagnosis in some cases is difficult. I recently had a case giving the classic symptoms and signs of renal calculus. Exploratory operation showed angioma extending from beneath the capsule into the medullary portion of the kindey.

"In another case which gave a history of periodical attacks of bladder irritation only, the ureter was found completely obstructed and the kidney greatly enlarged and its functionating capacity destroyed by inflammatory change."

Doctor P. M. Hickey said: "The successful use of the Roentgen ray as an aid in the diagnosis of urinary calculi depends upon the care and skill in the making of the diagnostic plates and upon their proper interpretation.

"The preparation of the patient for the examination constitutes one of the essential features of the technique. Castor oil should be administered the evening before in sufficient quantity to thoroughly move the bowels. Castor oil is preferred to 'salts' from the fact that the intestines do not become filled with watery fluids and there is less formation of gas with consequent difficulty in interpretation. The morning after the oil is given the patient should be further prepared by a high enema and the examination should be made, if possible, with an empty stomach.

"The location of the pain complained of by the patient is no criterion as to the location of the calculus. Accordingly, the examination should embrace the whole urinary tract. Plates should be made covering the region of both kidneys, the entire length of both ureters and the entire area of the bladder.

"If the patient is very fleshy, the examinatiou should be made with the small diaphragm, covering only a small area for each plate, and with as firm compression as possible, so as to prevent movement of the abdominal viscera.

"The necessity for the careful examination of the entire urinary tract is emphasized by the fact that there is a considerable number of cases on record in which the pain was paradoxical, that is, the stone was found upon the opposite side from which the patient complained of the pain.

"In no field of Roentgenology has there been more progress than has been made in examinations for urinary calculi. At the present time we are able, in a patient of average size, to diagnosis with considerable certainty the presence or absence of any stone of surgical size; by this we mean, that small stones in the ureter which would pass naturally and easily sometimes may escape detection. Not only are we able in the large percentage of cases to show the presence or absence of stone, but we are able also to determine the size, shape and position of the kidney. By means of the styleted catheter we are able to trace the course and extent of the ureter. If the pelvis of the kidney is injected with only one of the non-irritating silver salts, we can then determine the size of the pelvis of the kidney, and its relation to any stone which may be present.

"The element of error in these examinations depends first upon the weight of the patient, inasmuch as individuals with thick abdominal walls present certain difficulties of technique, and second, upon the composition of the stone. Naturally stones which have a large percentage of lime will be more easily found than stones which contain only a small amount. Pure uric acid stones are hard to detect, but, fortunately, are comparatively rare.

"In the examination of the bladder of old men where the vesical wall is much thickened, there is the possibility of error through the unusual thickness of the soft tissues. In the interpretation of shadows found in the lower pelvis, we are confronted with the differential diagnosis between shadows cast by small stones in the ureter and by the round shadows of calcified glands and so-called phleboliths. The latter can usually be diagnosed by their uniformly circular shape and by their position. The tract of the ureter follows a fairly constant position and calculi in the ureter are not usually round but present an elongated shape, the long axis of which will correspond to the long axis of the ureter. In cases of doubt, the passage of the styleted catheter and the raying of the patient with the catheter in situ will determine the final differential diagnosis.

"Where there have been tubercular changes in the kidney of sufficient extent to materially alter the composition of the kidney, from deposits of caseating masses we are able to make the diagnosis of tubercular kidney."

Doctors Keane, Spitzley, Cullen, J. W. Vaughn, Chene and F. B. Walker also discussed the paper.

At the general meeting, December 4, 1911, Dr. J. A. MacMillan read a paper, illustrated with numerous drawings, on "A Review of Four Hundred Cases of Rectal Surgery."

Dr. Alexander W. Blain also read a paper on "Concretions in the Salivary Duct with Report of a Case." He showed a Roentgenogram of his case, beautifully picturing the stone in situ.

A communication from the Board of Commerce, asking the Society to send a representative to attend a meeting of that body to discuss the advisability of renumbering the city, was read. The communication had been before the Board of Trustees and the Board had authorized Dr. A. D. Holmes to appear for this Society. Dr. Holmes reported the result of his meeting with the Board of Commerce. After some discussion it was moved and supported that Dr. Holmes continue as our representative and that he favor as the wish of the Society, the Philadelphia, or one-hundred-to-a-block method of numbering.

Dr. Collins, as chairman of a committee on automobile insignia, reported that progress was being made in obtaining the insignia recently adopted by the Society, that the shields were to cost one dollar per number, and that the secretary, or in his absence, Miss White, was authorized to receive money for them and receipt for the same.

Dr. Holmes, seconded by Dr. Hirschman, moved that the Society extend an invitation to the Northern Tri-State Medical Society to hold its meeting in July in this city.

The president, Dr. H. O. Walker, and Dr. P. M. Hickey, acting as temporary secretary, presided.

Fifty-one members were present.

A Review of Four Hundred Cases of Rectal Surgery

By Dr. J A. MacMillan.

Some general considerations from this review:

1. Adequate drainage of all wounds that extend through the rectal wall into the perirectal tissue is, in the opinion of the writer, an important rule of rectal surgery.

2. Severe infection was not common in these cases, but there was a considerable number of mild infections. This is due to the attenuated condition of the bacteria of the rectum.

3. Great care should be exercised to avoid injury to the rectal tissues by harsh preparatory methods, or rough manipulations.

4. No death occurred as the result of any of these operations. The rectum is a safe field for surgery.

5. Particular importance is attached to the after treatment in rectal operations, especially in fistulae. In these cases, after operation the wound should be dressed at least once a day, and the granulations be controlled and regulated by suitable packing with gauze.

6. In a considerable proportion of cases the operations were performed under local anesthesia; for example, all operations for external hemorrhoids and polypi, thrombotic piles, and, in some instances, operations for internal piles, were performed under local anesthesia.

Dr. Hirschman, in opening the discussion, said:

The results of a man's experience with a large number of cases of rectal surgery are of great value because they help to place a definite value on the technic used by the individual. I note that in Dr. MacMillan's series, he had fifty major operations with no deaths charged to the operation. While my proportion of major operations is much larger,

I have not been so fortunate. I have had patients die within a few days after operation from acute suppression of urine, from post-operative pneumonia, and post-operative nephritis, and I have charged those cases up in my histories, against the operation, as it was the anesthetic (ether) given for the operation which started the complications, resulting in death. I recall one case referred to me for an acute intractable pruritus and who died two weeks later from double pneumonia. This man had gone to a so-called rectal specialist, not in good professional standing, who had applied pure carbolic acid to the circum-anal region, with the result that the patient was suffering from an aggravated case of carbolic acid dermatitis. On account of his intense suffering from the dermatitis, he perspired greatly, would constantly throw off the bed-clothing in his frenzy, caught cold, and developed pneumonia, to which he succumbed. This death I charged to the so-called pruritus.

In the treatment of rectal ulcerations I have adopted as my working basis three principles. These are physiologic rest, cleanliness, and drainage. This may mean, in extensive ulceration, the performance of a temporary colostomy, a cecostomy or an appendicostomy. The results in properly selected cases are ideal.

The doctor states that any non-surgical treatment for anal-fissure is time wasted. I must take exception to this statement as my experience has been to the contrary. I have cured a number of cases by keeping the stools soft—not fluid, and applying one hundred per cent solution of nitrate of silver every third day, with a resulting cure in from ten days to two weeks. Other remedies have been used in my practice with equally good results.

While I agree with the doctor that incision or excision under local anesthesia is ideal treatment, the non-surgical method certainly has a distinct place.

The recurrences following fistula operations are due to the fact that side tracts leading from the main channel are overlooked and quickly develop new channels, when the main one has been sutured or healed. If a stereoscopic radiograph is taken after the injection of bismuth paste, one will discover those side tracts and so plan his operation as to include them all and avoid the embarrassment of recurrence.

The treatment of impertorate anus in infants is extremely important. I wish to raise my voice against attempts made by some practitioners to shove a trocar through the anal site with the hope of establishing a communication with the rectum. The mortality following such procedure is terrible. The best way to handle such a case, in my experience, is to perform a temporary colostomy and allow the child to grow up to an age when the operation can be properly completed without risk. The injection of bismuth paste into the distal opening of the colostomy and radiography will show the exact size and location of the blind end of the bowel, so that one can get an intelligent idea of the possibility or practicability of an operation to remedy the defect.

I see that the president is toying with his watch, which is an intimation that I have almost exhausted my allotted five minutes. This is somewhat disconcerting, so I will close by stating that Dr. MacMillan has struck the key-note when he states that it is the intelligent personal after-care which the proctologist gives to his cases of ano-rectal surgery, which accounts for the good results as compared, for instance, with the statistics which the doctor quoted from those New York hospitals where rectal surgery is done by everyone.

Concretions in the Salivary Duct, With Report of Case

By Dr. Alexander W. Blain.

Concretions in the various glandular structures of the body are, in most cases, secondary to other pathological conditions of the gland involved. The presence of the stone and subsequent pathology cause the patient to seek relief.

This case is reported because of its comparative rarity. The X-Ray picture shows the submaxillary gland and duct of the left side involved.

Four years ago a man, twenty-six years of age, began to have pain and swelling, more especially while eating, in the region of the left submaxillary gland. About a year later the swelling became quite noticeable and involving the same region. In February, 1911, an abscess developed and was incised by his physician. A sinus resulted. The pain was not relieved and the sinus persisted.

The speaker first saw the patient in June, 1911. A large abscess had formed externally

and the tissues about the opening of the sinus were red and edematous.

The patient was sent into Harper Hospital, where he was operated upon June 21, 1911, being guided, of course, by the aid of the Roentgenogram, a positive of which I here display. I have to thank Dr. P. M. Hickey for this most beautiful picture.

Three weeks after the operation upon the duct and after the subsidence of acute inflammation, two concretions were digitally removed. The patient made a prompt recovery, the pain and discharge subsided, and the salivary fistula closed.

The speaker, from his experience, in future cases would try other means of relief before resorting to the knife and would suggest, first, X-ray for diagnosis; second, dilatation of the duct with sounds as in strictures in other locations of the body. Should these procedures fail, then incision of the duct from within the mouth. Local anesthesia, he believes, is preferable to general.

ROLLAND PARMETER, *Reporter.*

NEWS

The City of Saginaw has adopted a milk ordinance,prepared by the Federation of Women's Clubs and submitted to the council the first of last May. The health department has complete jurisdiction over the inspection and is responsible for it. The tuberculin test of all cows at least once a year is required, together with bottling of the milk. The United States Government department of animal industry has been requested to co-operate in enforcing the requirement of the tuberculin test.

The regulations as to the quality of milk are as follows: It must contain no preservatives; no part of the cream shall be removed; no water or foreign substance added. It must be maintained at a temperature of fifty degrees Fahrenheit, or less, since one hour after the time of milking. It must not contain more than 100,000 bacteria to the cubic centimeter.

Any person selling without a license is liable to a $100 fine, or imprisonment for ninety days, and the revoking of the license.

The Michigan Branch of the National League of Medical Freedom held a meeting in Detroit November 14, and elected these officers:

Chairman, Philip Breitmeyer; *Vice-Chairman,* Henry W. Hoyt; *Secretary,* F. C. Campbell; *Treasurer,* John C. Wright; *Executive Committee,* L. H. Field, Jr., Jackson; H. S. Jordon, Grand Rapids; L. H. Turrell, F. S. Knight, L. G. Younglove and Charles A. Kaichem.

The President has appointed the following physicians in Michigan to the Medical Reserve Corps of the Army:

To be First Lieutenants with rank from August 31, 1911: J. B. Kennedy, Detroit; Bret Nottingham, Lansing; J. M. Robb, Detroit. With rank from September 29, 1911: Chas. H. McLean, Caro; Alex M. Sterling, Detroit; Geo. Waters, Memphis. To rank from Nov. 20, 1911: Walter L. Finton, Jackson. With rank for December 15, 1911: Wm. J. Cassidy, Detroit; Wilfrid Haughey, Battle Creek, and Herbert M. Rich, Detroit.

Dr. R. C. Jamieson, secretary of the Wayne County Medical Society, Detroit, who has been ill with typhoid fever is well on the road to recovery. He contemplates going abroad early in February and staying until June, to rest up and to pursue post graduate work.

Dr. Ernest K. Cullen, formerly of Baltimore, is located in the Washington Arcade, Detroit, for the practice of abdominal surgery and gynecology.

Dr. Howard L. Begle, of Detroit, may be addressed at 59 Agnes Str. Munich, Germany, where he is taking post graduate work under Professor Eversbusch.

COMMUNICATIONS

Milwaukee, Wis., Dec. 5, 1911.

To the Editor the JOURNAL,
Michigan State Medical Society,
Battle Creek, Mich.

DEAR SIR.

Were Barton Cook Hirst less eminent as an obstetrician, he would hesitate, in my opinion, to express himself as he does in the opening paragraph of a "communication" in your issue of December:

"Of all branches of medical practice, it is generally admitted, I think, by those who have investigated the subject, that young physicians are least well prepared in obstetrics, and that lack of adequate preparation in this branch is

productive of more harm to the community than a deficiency in any other."

Can a scientific man establish the proposition that attendance during a physiological process, such as child birth, by an inadequately prepared physician, *is productive of more harm to the community than a deficiency in medical diagnosis*? I'd not hesitate to restrict my challenge to tuberculosis and match cases with him, not in numbers but in *harm to the community*. Even a propagandist should not lose his scientific balance and trip over his enthusiasm.

Very truly yours,

H. E DEARHOLT.

BOOK NOTICES

The Physician's Visiting List for 1912. Philadelphia: P. Blackiston's Son & Co.

This pocket day book contains all the good features it has had for so many years: Rules on Incompatibility, Treatment of Poisoning, Table of Weights and Measures, Dose-tables, etc., together with abundant blank pages for day book notes, and memoranda, engagements, etc. It is bound in flexible leather with a tucked flap.

The Practitioner's Visiting List for 1912. A pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contains 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil with rubber, and calendar for two years. Price by mail, postpaid to any address, $1.25. Thumb-letter index 25 cents extra. Descriptive circular showing the several styles sent on request. Lea & Febiger, Publishers, Philadelphia and New York.

To make comments upon this Visiting List would be simply to repeat what we have said in past years. It is full, complete, and we can conscientiously endorse it.

The Fourth Physician. A Christmas story by Montgomery Pickett. Chicago: A. C. McClurg & Co., 1911. $1.00 net.

The victory of the true physician over ambition and prudishness furnishes the theme of this entertaining little story. Dr. Shepard had made a wonderful discovery which he was too interested in giving to the world in a spectacular manner to give it sufficient trial. He could not spare the time from hobnobbing with a German professor to see a poor sick child in the slums and administer the remedy. The story dramatically depicts how he sacrificed his ambition finally to see the sick child, and how he was reformed, although the child died. A pretty love story is intertwined with the professional problems and engagements.

Electricity: Its Medical and Surgical Application. Including Radiotherapy and Phototherapy, by Charles S. Potts, M. D. With 365 illustrations and 6 Plates. Lea & Febiger, Philadelphia and New York, 1911.

The application of electricity to diagnosis has created a demand for such works as the above—works sufficiently elemental for the use of the beginner and, at the same timt, thorough enough for the advanced student, and profound enough for the experienced practitioner. Paradoxical as this statement may appear, it is accomplished in the above work.

The section on Electrophysics, by Horace Clark Richards, possesses the rare attraction of having been written by a master of mathematical physics who, disregarding the medical application entirely, has given us a most comprehensive and, at the same time, simple and plain description of electricity, what it is, the laws to which it conforms, where it comes from, how developed, the machinery to control it,—simple enough for all, and technical enough for any. The remaining six sections cover Electrophysiology, Electrodiagnosis, Electroprognosis, Electrotherapeutics, Methods of Obtaining General and Local Effects, and the Application of the Roentgen Rays in Medicine.

The good judgment and common sense displayed in every page of this book, together with the many practical hints and cautions, favorably commend it to the thoughtful.

The beginner needs it. The older practitioner will find it very useful.

Recent Studies of Syphilis, with special reference to Serodiagnosis and Treatment. Second Edition. A reprint of Articles Published in the Interstate Medical Journal, St. Louis. Interstate Medical Journal Co. 1911.

A valuable collection of important papers on Syphilis by men who know.

Ever since the announcement of the casual relationship to syphilis of the spirochaeta pallida, by Schaudinn, in 1905, and the new specific salvarsan (606) by Paul Ehrlich, the study of syphilis has been pursued with more vigor and from a more advantageous angle; indeed, it has occupied the front of the stage.

This collection of twenty-six recent papers by Noguchi, Jones, Cohn, Marks, Housquains, Fordyce, Wolbarst, Wechselmann, Babcock, Hallepeau, Corbus, Dyer, Ravogi, Morrow, Graves, Engelbach, Strouse, Fisch, Skinner, Myer, Schwab, Green, all in the light of the

recently discovered pathology, sets forth in accessible form our present knowledge of the cause, pathology and treatment of syphilis. Coincident with this review comes the announcement that Noguchi and Hoffman have independently demonstrated the specificity of spirochaeta pallida as the cause of syphilis by producing the disease in rabbits, from pure cultures obtained in Hoffmann's experiments from man.

A Text Book of the Practice of Medicine. By James M. Anders, M. D., Ph. D., LL. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Tenth Revised Edition. Octavo of 1328 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net; Half Morocco, $7.00 net.

The enormous advances now being made in internal medicine, cause the advent of this edition to be not only opportune but imperative. Twenty-five years ago text books on practice contained nothing that had not been definitely proven at the time of issue, hence these books were from five to ten years behind the time when they left the press. To-day this is all changed. The latest thought is carefully brought out with the statement that it is still under advisement, or that it is not yet proven, or the result of experience to date is noted.

A very careful review of this edition convinces us that nothing is omitted, that any new thought, be it of pathology, etiology, symptoms or treatment that is not found in it, has come out since the press proofs were read. Anders is to be congratulated on his brilliant success in keeping up with the time, that requires the production of three large volumes in the brief interval of two years.

It is a waste of time to read books on practice, that date back five years.

The Practical Medicine Series. Under the general editorial charge of Gustavus P. Head, M. D., and Charles L. Mix, A. M., M. D. Vol V. Obstetrics, edited by Joseph D. DeLac, A. M., M. D. and Herbert M. Stowe, M. D. Series, 1911. Chicago: The Year Book Publishers. $1.25, Series $10.00.

Volume V. of the Practical Medical Series on Obstetrics has faithfully compiled the advances in that expanding branch. The arrangement is Pregnancy, Labor, The Puerperium and the New Born, making reference easy. Among the many points discussed we will call attention to but five; Dechloridation or Habitual Death of Fetus, Blood Pressure in Eclampsia, The Lying in Period, Injuries to Child (skull) avoidable and unavoidable, fatal or otherwise, during delivery, Care of Infant, etc.

Vol. VII Pediatrics, edited by Isaac A. Abt, M. D., and May Michael, M. D. Orthopedic Surgery, edited by John Ridlon, A. M., M. D., and Charles A. Parker, M. D., $1.25. Series $10.00.

Volume VII on Pediatrics and Orthopedic Surgery is a carefully compiled volume and shows great study of these subjects during the year. Until one has carefully examined the books of this series he can only with difficulty appreciate their value. In them the authors have gathered together from all sources the advance thought and experience of the world's best thinkers, experimentors and practitioners, thus each of these books contains practically all of value that has appeared during the year on the subject named. They are better than bound journals, because they draw from numerous journals, and individuals; they also classify and contain many authors' notes.

Manual of Pathology, Including Bacteriology, the Technic of Postmortems, and Methods of Pathologic Research, by W. M. Late Coplin, M. D. Fifth edition, rewritten and enlarged, with six hundred and twelve illustrations and twelve plates, eleven of which are in colors. Philadelphia: P. Blackiston's Son & Co., 1911. $4.50 net.

Coplin's Pathology has been a standard for many years. This fifth edition has been largely rewritten. References to the literature have again been included, which adds materially to the value of the book as a reference work. The illustrations are complete, clear and well executed, as is the editorial and mechanical work as a whole. The colored plates are especially valuable.

Five chapters at the close are devoted to laboratory directions and technique for post-mortem examinations, histologic and bacteriologic methods, microscopic examinations of the urine, and sputum examinations. These chapters alone are worth the whole cost of the book, even without the thirty-one other valued chapters.

MICHIGAN STATE BOARD OF REGISTRATIONS IN MEDICINE

RESULTS OF EXAMINATION, AT LANSING, OCTOBER 10, 11 12, 1911.

Name and Address.	College.	Date
Alexander, John, Ann Arbor, Mich.	Homeopathic Dept., U. of M	1911
Davis, David M., Baltimore, Md.	Med. Dept., Johns Hopkins Univ	1911
Ghareeb, Saleem E., Gd. Rapids, Mich.	Detroit College of Medicine	1911
Kelley, Edward H., Ironwood, Mich.	Dept. of Med. & Surg., U. of M	1911
LeGolvan, Celestin, Garden, Mich.	Medical Dept., Univ.of Paris	1911
Miller, Bodo E., Ann Arbor Mich.	Dept. of Med. & Surg., U. of M.	1911
Northcott, Andrew T., Bay City, Mich.	Trinity Medical Coll., Toronto	1898
Orzechowski, V. B., Detroit, Mich.	College of P. & S., Illinois Univ.	1911
Stoland, Iver, Kalamazoo, Mich.	Rush Medical College, Illinois	1911
Woodlock, L. A., Dexter, Mich.	Homeopathic Dept., Univ. of Mich.	1911

ADDITIONAL REGISTRATIONS THROUGH RECIPROCITY.

Name and Address.	College.	Qual No
Berglund, Simeon, Menominee, Mich.	College of P. & S., Illinois Univ. 1906	I. Illinois
Kelley, Wm. H., Detroit, Mich	Baltimore Med. College 1905	I. Maine
McKay, Robert D., Gd. Rapids, Mich.	College of P. & S., Illinois Univ., 1907	I. Illinois
Mc Cullough, R. E., Mason, Mich.	Starling Medical College, Ohio, 1898,	II. Ohio
Stebbins, Eugene B., Ironwood, Mich.	College of Med. & Surg. U. of Minn., 1908	I. Minnesota
Bussard, Robert I., Muskegon, Mich.	Northwestern University Med. School Chi.'10	I. Illinois
Cumming, James G., Ann Arbor, Mich.	Dept. of Med. & Surg. U. of M., 1903	Group 3
Kilroy, John F., Detroit, Mich.	Detroit Homeopathic College, 1911	Group 3
Wardell, Louis A., Hastings, Mich.	Detroit College of Medicine, 1911	Group 3
Rose, Frank Lisle, Jackson, Mich.	Dept. of Med. & Surg., U. of M., 1886	I. Illinois
Hartsock, F. M., Detroit, Mich.	Med. Dept., Columbian Univ., D. C., 1897	I. Dist of Columbia
Royce, Frank D., Detroit, Mich.	Med. Dept., Univ., of Louisville, Ky. 1911	I. Kentucky
Trenkle, Henry L., Flint, Mich.	Med. Dept., University of Minn., 1909	I. Wisconsin
Taylor, Wesley E., Detroit, Mich.	Dept. of M. & S., U. of M., 1899.	II. Georgia
Byers, Earl J., Gd. Rapids, Mich.	College of P. & S., University of Ill., 1909	I. Illinois.
Charles, Joseph W., Detroit, Mich.	St. Louis Medical College, Missouri, 1891	II. Missouri
Grunitz, Otto C., Holland, Mich.	Atlanta School of Medicine, Georgia, 1908	I. Georgia
Hamilton, Wm. F., Detroit, Mich.	Northwestern University Med. School, Ill. '11	I. Illinois
Neal, Thomas A., Detroit, Mich.	Dept. of M. & S., U. of M., 1901	I. New York
Martin, F. H., St. Joseph, Mich.	Hahnemann Med. College, Ill., 1899	II. Wisconsin
Felts, Thomas O., Kalamazoo, Mich.	Barnes Medical College, Mo., 1896	II. Iowa
Geib, Daniel, Groton, So. Dakota,	Dept. of Med. & Surg., U. of M., 1879	II. Dakota
Cullen, Ernest K., Detroit, Mich.	Med. Dept., University of Toronto, 1903	I. Maryland
MacMullen, Frank B.,Ann Arbor,Mich.	Homeopathic Dept. U. of M., 1911 ..	Ex., June,'11

The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

Vol. XI BATTLE CREEK, MICHIGAN, FEBRUARY, 1912 No. 2

ORIGINAL ARTICLES

FRONTAL LOBE ABSCESS*

ALBERT E. HALSTEAD, M. D., Prof. Surgery Northwestern University, Attending Surgeon to the St. Luke's and Cook County Hospitals, and
ROGER T. VAUGHAN, M. D., Adjunct Attending Surgeon St. Luke's Hospital
Chicago, Illinois

Frontal lobe abscess is, in general, so infrequent a condition that it is unusual, as the literature shows, for more than one case to occur in the practice of any surgeon, and much less usual for one to have two of them under his care at the same time, as occurred in our two cases. In 241 cases of brain abscess collected by Gowers, there were only five of the frontal lobe, three of which were of nasal origin. In 120 cases of frontal sinus suppuration collected by Engelmann, only five were complicated with brain abscess. In 9,000 post-mortems collected by Pitt, there was only one abscess of nasal origin which had perforated the ethmoid and led to a frontal lobe abscess. Up to the year 1901 there were only 21 cases of frontal lobe abscess extant in the literature, according to Herzfeld, and since that time perhaps twice this number in addition have been reported.

The etiology of abscess of the brain in general is very similar to that of frontal lobe abscess in particular, and is better known probably than the etiology of any other brain affection. We may now safely say that these abscesses are always due to the pyogenic microorganisms. The so-called sterile brain abscess is probably always primarily a mycotic affair.

These microorganisms come, as a rule, from neighboring purulent foci, sinus empyemata, localized bone caries and necrosis, trauma, and so forth, and come less often from distant foci, such as bronchiectatic cavities, septic endocarditis, pyemia, thrombosis, and the like. When due to trauma, the trauma need not occur close to the subsequent abscess. Gowers reports a case in which the abscess of the frontal lobe followed an injury to the occiput. Abscess in the left hemisphere has also been reported after trauma to the right. Contrecoup may play some role in this localization distant from the site of injury. Where the abscess is in the frontal lobe, disease of the frontal sinus seems to be somewhat more frequently the cause than disease of the other sinuses, though frontal lobe abscesses develop also in conseqeunce of sphenoid and ethmoid

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

empyemata and necroses, and infections of the orbit, with caries of the orbital plate.

The abscesses which occasionally follow the acute infectious diseases are more apt to be secondary to foci of suppuration in other places in the body than to occur primarily in the brain, though they may do the latter, particularly if trauma occurs to the skull or its contents during the course of the disease, with or without the formation of hematoma.

Of the bacteria which are found in these abscesses, the pyogenic cocci are the most frequent. The streptococcus pyogenes, the staphylococcus pyogenes aureus, the staphylococcus pyogenes albus and citreus have all been found alone and in combination. Undoubtedly, many times the cocci represent the end stage of what was originally mixed infection, as in the case of Heyde, particularly following the opening of the abscess, when the cutaneous organisms have a chance to overgrow the other organisms which were primarily the cause of the abscess.

Other organisms are bacillus pyocyaneus, bacillus pyogenes foetidus, the pneumococcus, the pneumonia bacillus, the typhoid bacillus, bacterium coli, proteus vulgaris. These abscesses may also arise from breaking down of a tuberculoma, in which case only the tubercle bacillus may be found, or it may be found in connection with pyogenic organisms. The streptothrix brain abscess is a peculiar variety which may occur in the frontal lobe, as elsewhere, and is perhaps more frequently secondary to lung affections, especially bronchiectases, than to any other condition. The author has seen one such case, though not in the frontal lobe. There have been two cases reported in which dysentery amebae were found in brain abscesses. Upon the specificity of the bacterial invasion the pathological changes in the brain do not seem to depend to any particular extent. Neumann thinks that the pyogenic cocci are more apt to produce abscesses with fibrinous membranes for their walls, whereas he thinks the anaerobic bacteria are more likely to produce abscesses with soft necrotic walls and poorly outlined, containing much broken-down, half-fluid debris, and giving a worse prognosis, because of their less complete encapsulation.

Obligate anaerobes form hydrogen sulphide and produce a very fetid odor, which some of these brain abscesses have. When this odor is present, the diagnosis of obligate anaerobes may safely be made, bacteriological examination is necessary to determine their exact identity.

SYMPTOMS

In general, the symptoms of abscess in the frontal lobe are those of any tumor in the same location, but the picture produced by these lesions is often clouded, owing to the fact that it is complicated by the conditions which led up to them, and with other simultaneous lesions; such as, subdural collections of pus, rarely extradural, more or less extensive meningitis, and empyema of the various sinuses, not infrequently with thrombosis. When the abscess is not complicated in this way, it has been stated that it is somewhat less apt to produce focal symptoms than is tumor of the frontal lobes, probably for the reason that, being located, usually, low down in the third or second frontal gyri, it is less apt to involve the motor tract than are tumors, which often lie higher up, spread further back, and produce symptoms of disturbance in the motor speech area when lying on the left side, or in the motor fibers running to the opposite half of the body. These abscesses are also more likely to lie more to the front and medium line than are tumors, which

are more apt to attack the convexity of the hemisphere.

When aphasia occurs, whether it be motor, or static, or bradyphasia, it is a very valuable localizing symptom, but, unfortunately, it is rather unusual in these cases, and only occurs when the lesion is in the left hemisphere.

Motor disturbances are somewhat more frequent, especially pareses and irritative symptoms.

Convulsions of the Jacksonian type have frequently been noted with frontal lobe abscess, even when distant from the motor area, and at the extreme anterior pole and midline of the brain, although small. How these atpyical lesions can produce Jacksonian attacks is not clear, unless by collateral edema or the production of distant pressure in some other way. Tremor of the opposite extremities has been noted by Linden. In a few of the recorded cases there was conjugate deviation of the eyes and head to the opposite side from the lesion, and this symptom may be the premonitory sign of a Jacksonian attack in these cases. Conjugate deviation may occur toward the side of the lesion, as in a case mentioned by Tonkin.

Hemiplegia or hemiparesis of the opposite side is the most frequent of the motor disturbances, and occurs in a large per cent of frontal lobe abscesses, although unfortunately, often only near the termination. Slighter grades of weakness in the extremity of the opposite side, or in some muscle region of the opposite side, is more frequent, and very important not to overlook. In long-standing cases contractures even may develop from the hemiplegia.

Motor and static ataxia have been described by Trautmann as a frontal lobe symptom in so-called frontal ataxia. Whether this ataxia is due directly to the frontal lobe lesion or to distant pressure on the cerebellum or on the cerebellar tracts is by no means certain. At any rate, there already exist a number of cases of frontal lobe abscess in the literature, observed for a long period of time by very competent observers, which have gone to post-mortem with the diagnosis more or less positive of cerebellar tumor, owing to the extreme ataxia and other posterior fossa symptoms, probably all merely distant pressure effects.

The general symptoms of frontal lobe abscess show nothing particularly peculiar. The headache is rather more apt to be in the frontal region or over the eyebrows, but is not infrequently in the occiput or neck, and, as in the cases with the cerebellar symptoms, combined with rigidity of the neck. Tenderness over the frontal region on percussion is sometimes present, and may have some localizing value. How much it is due to the abscess itself, and how much to the primary frontal sinus inflammation, so often present in these cases, is a matter for dispute.

Stupor and coma are not more characteristic for frontal lesions than for others. Slowing of the pulse may occur, as elsewhere.

Optic neuritis and choked disc are very frequent, and, perhaps, more apt to be greater on the side of the lesion than on the opposite side. If this unilaterally predominant optic nerve-head swelling has any localizing significance, it should have more in the frontal lobe abscesses than in other focal lesions of the brain, because the neuritis in these cases is probably more often due to the direct involvement of the nerve than with the other brain lesions. The frequency and early development of the choked disc are two other points which may mislead an observer to diagnose cerebellar disease.

The psychic disturbances may be marked.

Stupor, coma, unrest, euphoria, playful jocosity, the witzelsucht of the Germans, may occur, but lack much localizing significance. One of our cases was rather given to punning, but, in spite of a large abscess, showed no other mental symptoms until the abscess broke into the lateral ventricle, when coma, of course, supervened. The other case, the preparation of which we have here to demonstrate, showed some clouding of consciousness.

Rise in temperature is present early, but may be absent during the latent stage, in which the patients so often are first seen by the consultant, and, in both our cases, there were periods of subnormal temperature, without any significant rise whatever.

The symptoms of the causative condition, whether it be nasal suppuration, lacerated wounds or distant pyogenic foci, must be taken into consideration in the diagnosis. Unfortunately, the cases are all too frequent in which the primary lesion has entirely cleared up when the brain abscess has become manifest.

Pain in the frontal and supraorbital region, on bending the head forward, has been described as a localing symptom by MacEwen. The presence of Pott's puffy tumor was of great help in diagnosing our first case, and is rarely mentioned in this connection in the literature.

Strabismus with diplopia may be a suggestive symptom, and perhaps assisted somewhat in the diagnosis of our first case, although the external rectus, being the muscle involved, led at least one of the consultants, in connection with the swelling on the forehead, to think of a luetic infection.

Vertigo, nausea and vomiting are not more freqeunt nor less frequent symptoms here than elsewhere. Recurring chills, with fever, when present, although absent in both our cases, help to make the differential diagnosis from tumor. Progressive emaciation occurs, particularly when there exist complicating suppurations elsewhere, and also when vomiting is frequent and persistent.

A leucocytosis of ten to twenty thousand is usually present, even in the latent stage, and is of much help in the diagnosis. It is much more valuable than the occurrence of febrile periods which are usually an insignificant feature, the rule being that during the latent period, when these abscesses are usually seen by the surgeon, the temperature is normal or even subnormal, as in our two cases.

The polynuclears usually show a relative and absolute increase, the small mononuclears and eosinophiles a relative and sometimes an absolute diminution.

TREATMENT

The essential thing in the treatment of frontal lobe abscess, as in other abscesses of the brain, is thoroughly adequate drainage. Nearly all of the cases, when analyzed as to the cause of death, give evidence to show that drainage was none too thorough, and we believe that although most brain abscesses end fatally, in spite of drainage, better results would be obtained if operators were not so fearful of making and maintaining large drainage openings. All abscesses should be emptied completely and with as slight trauma as possible. Trauma, of course, is still more necessary to avoid in an acute abscess than in a chronic abscess, which has a pyogenic membrane developing. Irrigation should not be used, nor should the finger be used for exploring. There is nothing to be felt inside an abscess cavity in the brain which will justify the unnecessary trauma usually inflicted with the finger. The encephaloscope recommended by Whiting, of New York, in

1909, has not advanced in favor. We cannot see that it is any particular help either in diagnosis or treatment. Counter drainage of these abscesses has been recommended a number of times, and can, we believe, be avoided if a large enough initial drainage opening be made. The additional trauma and additional infection consequent to a counter opening through the skull and its membranes, with the additional danger of meningeal infection, are cogent arguments for restricting its use to a minimum. Drain with a large tube and remove it only in order to cleanse it. Strips of iodoform gauze may also be used for drainage, and for wiping dry the abscess cavity. Avoid making repeated punctures into healthy brain tissue, by keeping a drain continually in place, so that the abscess does not again have to be hunted for. If the brain tissue crowds in around the drainage opening before the abscess cavity is obliterated, the fistula must be enlarged. It is customary to divulse the wound on such occasions with forceps. Such divulsion may open up new areas of infection, but we hardly see how this is to be avoided if we are to secure, constantly, adequate drainage for the abscess cavity until it is obliterated. Curettement of abscess cavities with pyogenic membrane has been advocated, but we consider this procedure very dangerous, particularly where abscesses are either deeply or superficially situated, so that penetration with the curet of the lateral sinuses or meningeal space might happen. Whether the encephaloscope would make this curettement any safer we very much doubt.

The skin incision will depend on the localizing diagnosis. Where frontal lobe abscess follows pyogenic infection of the accessory sinuses, a modification or extension of Killian's incision for pansinusitis may profitably be used, as in our operated case. Here we made the usual Killian incision over the eyebrow, down the side of the nose, and added a median incision vertically over the swelling, which lay just above the root of the nose. Thus, we were enabled to open up freely the frontal sinuses and also on to the frontal bone. Granulations in the sinuses should be curetted away, pus evacuated, and the thorough cleansing of the site done before the dura is opened. If carious bone be present, it should be chipped away down to the dura, and the dural site underneath the carious bone is the place from which to probe for the abscess. Before such probing is done it is better to open the dura and if the meningeal space is not obliterated to pack it off with iodoform gauze in order to avoid infection of the subdural cavity. Then, with a hollow aspirating needle and aspirating syringe, the abscess should be sought for, at first close to the seat of the causal infection, and then in ever-widening circles from that site until the pus be found. If an abscess cavity be opened into, it is better to drain that and not hunt for other abscesses. In the great majority of the cases—about eighty per cent—these abscesses are single, and in a considerable proportion of the multiple abscesses there are communications between them so that opening one may at least partly drain the others. The patient should then be watched and if, after adequate drainage and the elapsing of a sufficient time—ten days or two weeks—his symptoms do not sufficiently improve, an attempt to locate further abscesses may be made, and under such circumstances it might be justifiable to search for these abscesses through a counter-opening, the better to avoid infecting healthy brain tissue, as would be done if a second exploration were done through the now infected original site of operation.

Case 1.—The first patient was a school-girl,

aged fourteen. Before September, 1910, she had never had any severe illness, though inclined to run some fever often without any cause apparent to her folks. About February 22, 1910, she had a fever which ran around 104° for a few nights. Etiology unknown. During the entire summer of 1910 patient was unusually well, except for yellowish skin eruption on her cheek and lips (impetigo (?)), and later, in September, developed some little boils in and around the nose. At this time her father noticed the development of some small lumps under the ears (glands (?)).

About or slightly before November 1, 1910, the patient developed a pain over her right eye. On November 3d or 4th, a local doctor examined her nose and began treating her by syringing out the nose, explaining that he didn't want the sinus openings stopped up. This treatment he continued for several days. An internist, Dr. R., from Peoria, examined her about November 15th, and stated that she was suffering from sinus disease. A nose specialist from Peoria probed the nose on November 16th, trying to eliminate the trouble, as he explained, by "opening the drains." Her symptoms became worse. Her temperature that week ran up to 104.6°. On November 17th a rhinologist from Chicago stated that her trouble was in the ethmoid. He syringed her nose out for two weeks, removing pus every time. The temperature was lowered as the patient's condition improved. By December 1st, patient was up and around again, although weak. She complained of cold hands and feet a good deal. The frontal swelling just above the bridge of her nose was first noticed about November 15th. It came on so rapidly that her father and mother noted the swelling over night. It would vary in size from day to day. About December 7th it was nearly gone, but soon returned. The swelling was never hard and has gradually moved a little to the left in the course of its development. About two weeks after Christmas it became softer than at any time previously. It has only occasionally been tender. Since December 15th the temperature, which previously was usually somewhat elevated in the afternoon, has been subnormal. Up to January 1st, 1911, the patient's parents had not noticed any symptoms pointing to a brain lesion except that at times the patient found it difficult to call up a word she wanted. She would often hesitate for a considerable time before she would utter it, and the parents often remarked about this fact, as there was no history of injury to the skull at any time.

About January 1st, 1911, the patient first began to complain of double vision. About one week later the parents first noticed that the patient had a squint. Headache and dizzy spells have persisted from November, 1910, to the time of her admission to the hospital. She did not vomit until December 10, 1910, and then only in connection with the severer headaches. A Chicago internist, seeing her at this time, put her on a trial course of iodides and mercury. The father denies any luetic infection in himself or family. The Wassermann test, done twice, was negative both times. The fundi were first examined about the middle of December, by Dr. G., and choked disc was diagnosed. The patient entered St. Luke's Hospital, January 13, 1911, in the service of Dr. Halstead, who diagnosed a Pott's puffy tumor of the forehead, with probable brain abscess in the frontal region. The findings in her case at that time were: Headache—not so severe now as previously, but still present at the time; dizzy spells occasionally; vomits rarely as compared with a month previously; bilateral choked disc; slight weakness of the left arm and leg muscles; motor speech apparently normal.

She is cheerful, except that she rather objects to the frequent medical examinations. The choked disc shows many hemorrhages and much exudate about and in the disc in both eyes. The swelling of the disc and the hemorrhages and exudate are somewhat more marked in the right than in the left eye. Red blood cells are 4,900,000; white blood cells, 15,000; hemoglobin, 85%; differential count showed: small mononuclears, 32%; large mononuclears 2%; polynuclears, 66%; no eosinophiles. Up to the time of her operation her highest temperature in the hospital was 100.9°, taken per rectum, all other temperatures were below 99°. The urine was normal. There were no mental symptoms. Orientation was normal. No emotional change. She was at all times quiet and orderly. She repeats the test sentences normally. Addition and multiplication were well done, as were the other tests for mental elaboration. The four paper test was done correctly.

January 16, 1911: The operation was as follows: An incision very much like that o Killian for frontal sinus was made, the perpendicular incision running across the frontal swelling. Both frontal sinues were opened and were found filled with granulation tissue, which was removed.

The posterior wall of the right frontal sinus was carious and was removed up to the dura. No collection of pus outside the dura. The dura was normal, except for a little thickening. The aspirating needle was inserted into the frontal lobe after the dura had been opened and the meningeal space packed off with iodoform gauze. After two or three punctures with the needle, the abscess was located in the lower part of the frontal lobe, somewhat away from the median line, and a large amount of pus was drained out. Examination of this pus showed the flora to be entirely Grampositive cocci. A rubber drain was inserted into the abscess cavity and the external wound partly closed. The patient's condition improved very materially after this operation. Headache disappeared; the squint became somewhat less; she could read with less difficulty, and her temperature stayed down. The hemorrhages and exudate rapidly disappeared from her fundi, and the swelling diminished considerably. In the course of a few days the rubber drain was removed, a gutta percha strip inserted in its place and this removed. The wound, by February 1st, was nearly healed except for a little granulation. February 2d she began to have more headaches. Examination of the eyes showed some fresh exudate and hemorrhage. Her fever went a trifle above 100°, and her pulse to 60. Accordingly, on February 3d, the operation wound was again opened up, the abscess relocated and aspirated, with removal of considerable pus. A rubber drain was again inserted, and was then left in place for a month. Urine was at all times negative, except that following the first operation a few granular casts and a trace of albumin appeared, all of which cleared up in a few days.

On the 15th of March she left the hospital, with the wound all closed up except for a little granulation, and feeling splendidly in every way. Her temperature had been down to normal ever since the second operation; her pulse inclined to run up around a hundred; respirations were normal; headache and dizziness had disappeared; her discs were still somewhat swollen, one to one and a half diopters; margins were not sharp; color was grayish, with very little, if any, red tinge. No recent hemorrhages. There are a few tiny spots of exudate along some of the vessels inside the disc. There is no exudate outside the disc. The vessels are still tortuous, but not so swollen as previously. Diagnosis: Beginning optic atrophy secondary to choked disc. The changes are distinctly less marked in the left than in the right eye.

On the 12th of April the patient returned to the hospital, because her headaches had been coming on again and were getting worse. Sometimes they lasted several hours, though again only a few minutes. Her discs were again somewhat swollen. Otherwise, there was nothing particularly new about her condition. The blood count was 10,650. Urine was negative. Her temperature evenings was occasionally up above 101°, though never up to 102°. Pulse around 100. Respirations 20.

On April 15th she was taken to the operating room and the abscess site was again opened into. About 6½ c. c. of pus were drained out. With the aspirating syringe attached to the needle another ounce was removed. A tube was put in for drainage. On the next day the rubber tube was removed and a silver tube of Dr. Halstead's design inserted in its place. From the pus removed from the abscess a pure culture of staphylococcus aureus was obtained. Her condition continued to improve, with occasional flare-ups of temperature, and the aspirating syringe was frequently used in connection with the needle. On April 28th, Dr. Halstead being temporarily out of town and the patient's general condition good, the parents, against medical advice, took her home to the country.

She was in the contry about a week. During that time her temperature ranged from 99° at the start to 102° the day before she returned. She felt fairly well until the last night, when she had severe headache, nausea and vomiting, and seemed to become somewhat dull mentally. On the fourth day of May she returned to the hospital at about 1 P. M. At 1 A. M. her mother saw her in bed and she was able to speak, and seemed about as previously. At five A. M. her mother went in to see her again and found her in a comatose condition, with rapid pulse, and her skin feeling very hot. The family doctor was called in and, on telephone advice in Chicago, inserted a needle in the direction of the abscess cavity and drew off over an ounce of pus. Her condition seemed to improve a little and she was brought back on the train to a hospital. On reaching the hospital her temperature was 106°; her pulse 130. White count, 38,700; urine showed trace of albumin; no casts, but both discs were much swollen, with several hemorrhages and some exudate. She was taken immediately to the operating room and about an ounce of pus was removed by Dr. Halstead.

Spinal puncture was also done, and showed a fluid cloudy, with numerous pus cells, but no bacteria were seen in the smear. The result of the cultures was not recorded. From that time on her temperature and pulse rose steadily. She never regained consciousness; had a number of spells of singultus; she had to be catheterized at intervals. Stimulants and normal salt were given freely. She died on May 7th, and had shortly before death a temperature of 108.4°; pulse of 260, and respirations of 50.

The diagnosis was rupture of the abscess into the lateral ventricle, with pyocephalus and meningitis. No post mortem was allowed.

Case 2.—The patient is a schoolboy, aged seventeen. His mother is inclined to date his trouble back to an injury with a base-ball bat in September, 1910, but the causal connection is obscure. He did not even lose consciousness at the time.

During the early part of November, 1910, his symptoms set in with persistent headaches, chiefly in the occipital region. This headache kept increasing in intensity from the time of onset for two weeks, and since that time has remained about the same intensity. After the first week the headache was so severe as to confine the patient to bed. Since the onset of the headache, it has gradually shifted its location frontalwards, and at the time that the patient entered the hospital it was chiefly in the frontal regions, being especially marked over the eyes, and even in the eyes.

When the headache first began the vomiting occurred almost every morning. Since he has vomited at intervals. He complains of occasional colored and dark spots in front of his eyes, and ringing in his ears. His gait has become unsteady of late, and he staggers. Memory became deficient since the headache first set in, and the defect has been particularly for recent events. Family and personal history negative.

Examination: Choked disc present in each eye. The deep reflexes are slightly diminished on both sides. The internal and external eye muscles are normal. There is no Kernig, no rigidity of the neck, no focal brain symptoms. The urine showed no albumin, but a few hyaline casts and cylindroids. No granular casts. The white count was 10,700. Temperature, pulse and respiration normal; von Pirquet test positive.

During his stay in the hospital which began February 3, 1911, much frontal headache was recorded, and emesis, mucoid and yellow. The pain of the headache made him restless at times. It is recorded that he would get out of bed and wander around, and have to be returned forcibly to bed and restrained. It is recorded that he was mentally hazy frequently. The highest temperature during the ten days he was in the hospital was 99.4°. On February 12th Dr. Halstead and Dr. Futterer saw him in consultation, and the findings were as recorded above.

Operation was recommended.

February 13th. The next day, at nine A. M., the patient began to tremble and then developed a generalized convulsion. The jaw movements were very violent. Cyanosis was marked. Oxygen was given, and, in spite of it, respiration finally stopped. Artificial respiration was performed for about half an hour, until the pulse also stopped. The temperature just before the convulsion was recorded as being 96.2°; the pulse 54; the respiration 20. The pulse previously had always been above 60 while in the hospital.

AUTOPSY.

An autopsy of the head only was permitted, and this was performed on the day of death by Dr. D. J. Davis, pathologist to St. Luke's Hospital. His record is as follows:

The body is that of a young man, well-nourished but with an anemic, sallow appearance. No lesions on the scalp or depressions in the skull. The pupils are equal and moderately dilated. No discharge from the ears or nose. Dura now adherent to bone. The calvarium is thin and the entire inner surface is finely eroded and uneven. The brain is very firm, and adhesions, fine and delicate, but organizing, occur between the dura and pia over both frontal lobes; they are more abundant on the right side. On breaking these adhesions a large abscess in the right frontal lobe ruptured, and a large amount of green tenacious pus poured forth. The convolutions of the brain are everywhere much flattened, A small amount of turbid cerebro-spinal fluid is present. The pia at the base in the region of the optic chiasm is thickened, gray, and appears at one point gelatinous. There are fine adhesions between the hemispheres anteriorly. The right hemisphere is much larger than the left, especially in the frontal region. Everywhere the convolutions are flattened, and this is particularly noticeable over the entire right frontal lobe. The frontal lobe also bulges medianward and fluctuations are distinctly per-

ceptible. The vessels of the pia are everywhere engorged and over the right frontal lobe is a small amount of exudate, especially about the blood vessels.

On section there is found a large abscess occupying the entire right frontal lobe. The contents of this abscess consist of thick, tenacious, yellowish-green pus. Beginning at the frontal pole, where it lies one millimeter from the surface, the abscess extends posteriorly 8½ cms. It lies chiefly along the outer and lower portion of the hemisphere. The abscess cavity consists of a number of compartments, separated by a trabecular network of brain tissue and abscess wall. These compartments are variable in size and shape, some being oblong, others oval or round. The abscess does not reach the surface at any point. In many places, however, the cortex between the abscess and the surface is one millimeter or less. The abscess wall is from two to three millimeters in thickness, on the average, and may be divided into three zones. The first zone, adjacent to the purulent contents, has a pale yellow color, slightly mottled, rather soft, and is about one millimeter thick, though in places it may be considerably thicker. The second zone has a pale bluish color. It is firm and about .5 millimeter in thickness. This zone shades off gradually into an outer zone, which has a grayish brown color, is usually from one to two millimeters in thickness, and resembles edematous brain tissue. In some parts of the abscess these three zones are very distinct; in others much less so. The posterior portion of the abscess lies lateral and anterior to the optic thalamus, which it has encroached upon. It has also displaced the anterior horn of the lateral ventricle and backward, and occupies the obliterated anterior end of the anterior horn. It has not ruptured into the ventricle apparently.

The posterior end of the anterior horn is free and both foramina of Monro are open; there are no signs of intraventricular infection. At one section the abscess is seen to involve some of the fibres of the anterior commissure. In the anterior portion of the lobe the abscess lies nearer to the surface, as a rule, than posteriorly. There is slight but distinct dilatation of the opposite ventricle. The choroid plexus does not appear to be changed. There are no changes in the cerebellum nor in the pons or medulla.

The bones at the base are porus and easily penetrated. Both tympanic cavities are normal. The nasal sinuses show no significant changes.

BACTERIOLOGY

Staphylococcus pyogenes aureus was grown in pure culture from the purulent contents of the abscess. Smear preparations show only Gram-positive cocci in grapelike clusters. None are intracellular. Cultures made from the cerebrospinal fluid obtained at the base of the brain also gave pure growth of the staphylococcus aureus.

ANATOMIC DIAGNOSIS

Abscess in right frontal lobe, due to staphylococcus aureus; chronic lepto- and pachymeningitis; erosion of inner surface of calvarium; flattening of cerebral convolutions.

Erosion of the calvarium was sufficiently marked, so that it could probably have been demonstrated by the X-ray, as was the thinning of the calvarium in our first case. The patient was not in the hospital, however, long enough to have an X-ray picture made. The difficulty of draining such a multilocular abscess in the ordinary way is apparent. Had it been opened from in front, the lateral loculi would have been drained at best only indirectly, as they might have broken into the main abscess cavity. Had a tube been inserted only a little way into the abscess, the posterior loculus, of considerable size, would have had to drain into the anterior through a small and probably inadequate opening. The encephaloscope in that event might have been of some value besides in an exploratory way. Had the trepination been made from the side by the temporal flap method, the needle would probably have been inserted cautiously and only a short distance, in order to avoid opening into the lateral ventricle, and therefore only the lateral smaller abscess might have been opened, and the main cavity not touched. Had, however, both anterior and lateral openings been made for counterdrainage, as has been recommended, all the loculi would have been thoroughly opened in this instance, although, as we have mentioned above, we cannot recommend it as a routine procedure.

Bibliography

Auvray, M.: Par., 1909, J. B. Bailliere and Fils.
Bruns, Ludwig: Berlin. Karger, 1908, 2nd Ed.
Ballance: London, 1907.
Bernhardt, M., and Borchardt, M.: Berl. Klin. Woch., 1909, xlvi, II, 1341-7.
Collins, J.: Mod. Med., Osler. Phila. and N. Y., 1910, vii, 279-307.
Dreyfuss: Quoted by Herzfeld. Berl. Klin. Woch., 1901, p. 1980.
Denker: B. Fraenkel's Arch., X, p. 411.

Eshmer, A. A.: Jour. Amer. Med. Assoc., 1909, lii, 1758, No. 22, May 29th.
T. Diller and J. K. Everhart: Penn. Med. Jour., Athens, 1910-11, xiv, 3, 190, 3 Dec.
Gerber: Beitr z. Anat.Path. u. Klinik d.Stirnhohln, 1909.
Heyde: Deut. Med. Woch., 1908, xxxiv, ii, 2214-17.
Heyde, M.: Beitr. z. K. Chir., 1908-9, lxi, I, 50-88.
Herzfeld: Berl. Klin. Woch., 1901, Nov, 25, xxxviii, 47, p. 1180.
Hammesfahr: Deut. Med. Woch., 1907, Apr. 18, p. 659
Heymann: Ref. in Virchow-Hirsch's Jahresberichten 1897, ii, Th., p. 355.
Koebel: Beitr, z. Kl. Chir., xxv, 2.
McArthur, L. L.: Iowa Med. Jour. ,Des Moines, 1909-10, xvi, 114-125.
Macewen: Glasgow, 1893.
Mills, C. K.: J. Nerv. and Ment. Dis., xxxvi, 261-9.
Mingazzini, G.: Arch. f. Pschiat., Berl., 1910, xlvii, 1028-1162.
McCoy, J.: Trans. Amer. Laryngol., Rhin. and Otol. Soc., New Bedford, Mass., 1910, 372-382.
Panas: Ref. in Schmidt's Jahrbuch, 1895, Th. 2, p. 60.
Spiller, W. G.: Jour. Amer. Med. Assoc., 1909, liii, 2078-86.
Also Same 1910, liv, 579-588.
Schuster, P.: Stuttgart, 1902. Enke.
Schorstein: Lancet, London, 1909, ii, 843-852, clxxvii, Sept. 18, 1909.
Southard, E. E.: Osler's System, V. 648.
E. Mueller,: Deut. Zeitschr. f Nervenheilk., xxi, 1902, p.178.
Stucky, J. A.: Am. Pract. and News, Louisville, 1911, xlv, 33-36, No. 1, Jan.
Theisen, C. F.: Albany Med. Annals, 1909, xxx, 383-6.
Tooth, H. H.: St. Barth. Hosp. Reps., 1908, London, published in 1909, XLIV. 23-32.
Taylor, W.: Med. Press and Circ., Lond., 1909, n. s. lxxxvii, 54-7, Jan. 20, 1909.
Whiting, F.: Med. Record, 1909, lxxv, 133-7.
Zehlendorf: Deut. Med. Woch., 1910, xxxvi, 1481-84.
Ziehen: Med. Klinik, No. 1, 1909, Jan. 3, p. 9-12.
Zamazal, J.: Wiener Med. Woch., 26, 1897, p. 1190-2

DISCUSSION

ANGUS MCLEAN, Detroit: This is a very delicate, difficult and interesting question, but rather hard to discuss. I was very much interested in the doctor's paper, and to find out he had so many difficulties. First of all, I don't know of anything so difficult to drain as a brain abscess. It is like trying to drain a fluid out of a fluid. My experience of brain abscesses is limited to two cases. Both were secondary and followed some trouble with the bone. One case was secondary to an inflammation of the frontal sinus. The sinus had been opened and drained, the patient improving, but, later on, developed brain symptoms due to pressure and shortly consisting in a paralysis of the sixth nerve, affecting the external rectus muscle. Choked disc was also present. In about a week he developed epilepsy. The doctor brought that out very nicely in his paper.

I don't think you will get much temperature with brain abscess. If you get temperature with infection of the brain, it must be rather early, I think. The cranuim was opened, the dura incised and, after much exploration, a small abscess was found. I was surprised to see the great extent to which the brain can be explored without permanent injury. How many punctures can be made through its substance backwards and forwards, upwards and downwards, if you keep away from the base. The abscess was drained, and, after a time, the patient began to improve. As I said before, he had choked disc before the operation and could scarcely see your hand moving before his eyes; in a week he was able to read the ordinary journals, and could recognize any person. I think after this operation he had two or three convulsions but those all disappeared. In a month or so he went home and went to work. Now, as a matter of fact, although that man has gotten up and gone home to work, yet I would not say he is cured; for all brain abscesses are treacherous, and we may yet hear from him. The other experience I had with cerebral abscess was an abscess of the frontal lobe in a man who had been kicked in the forehead by a horse. About three months after the injury he came to Detroit to consult an oculist about his eyesight. A diagnosis of optic neuritis was made. This was thought to be due to an abscess of the frontal lobe. An opening mas made and the abscess discovered. This was drained, and the man did pretty well. At the end of a month he was able to be up. The drainage was removed, but the opening did not close entirely. In this man there was considerable escape of the cerebro-spinal fluid. While that was escaping he felt pretty comfortable, but when the opening closed for three or four days he would get headache, and complained of internal pressure. When this was opened up there would be an escape of an ounce or two of fluid and he would again feel pretty well. After going home, there was an accumulation there, or something else, and the man died. That man may have had secondary abscess that we did not find. The ultimate result is rather hard to prognosticate. An apparently cured patient may have further trouble. Abscesses in the brain are a serious matter, especially those that are difficult to locate. Those in the frontal convolutions should be diagnosed reasonably early, because if left too long, you will have a permanent obstruction of the optic nerve and probably permanent loss of sight.

MAX BALLIN, Detroit: I can only repeat what Dr. McLean has said about the seriousness and difficulty in treating brain abscess. In any other region of the body the finding of pus is most satisfactory; in the brain the finding of pus does not end the difficulty by any means.

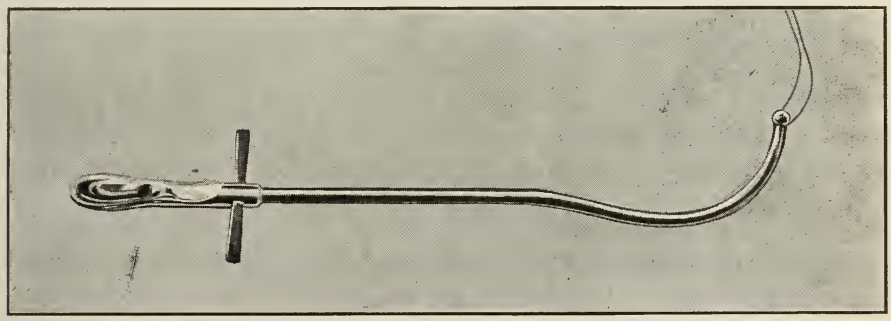
In any other part of the body the obstructive quality of the parts usually forces drainage, even when our drainage is inadequate, the pus will flow, and the abscess cavity will not close very easily but will form fistulas. It is different in the brain. We leave our drainage ten or twelve or fourteen days, and all kinds of drains have been used; we remove it, the patient goes home and apparently recovers. After two or three months the whole series of symptoms start again, and usually the patient dies. The very great difficulty of draining these abscesses is not appreciated generally. The brain clogs around the opening, and shuts off the drainage. It is especially difficult in frontal abscess. To find an adequate drainage for these abscesses is the greatest ideal sought after in the surgery of brain abscess.

A NEW INSTRUMENT FOR SUPRAPUBIC CYSTOTOMY

ANGUS McLEAN, M. D.
Detroit, Mich.

This instrument, a picture of which appears below, I have been using for about two years and have found it to be of great help in opening the bladder suprapubically.

It is about ten inches long and has a large prostatic curve. It has a very blunt perforated end which, when passed into the urethra, can be felt very distinctly through the abdominal wall. The cross-bar at the handle can be laid flat on the operating sheet after the instrument is inserted and thus makes it easier for the assistant to steady the instrument, which is so necessary in order to prevent the blunt end, which is pushing the anterior surface of the bladder up into the wound, from being moved from side to side. A very slight turn at the handle will always result in a considerable change in the position of the blunt end in contact with the anterior bladder wall. After the peritoneum is pushed aside the bladder can easily be opened at the point where the blunt end of the instrument pushes its anterior wall up into the wound.



Besides being a useful aid in opening the bladder, this instrument is also well adapted in aiding to check troublesome hemorrhage after a suprapubic prostatectomy. Through the eye in the blunt end a ligature can be threaded and drawn out of the urethra. A tampon of gauze or cotton can then be fastened to the bladder end of this ligature and pulled snugly into the prostatic urethra where it will readily control hemorrhage.

CARDIOSPASM*

W. H. ENDERS, M. D.
Jackson, Mich.

It is with a great deal of trepidation that I venture to speak upon the subject of cardiospasm, because in reviewing the literature on the malady, I find that it is treated of very briefly by nearly every author of note, the etiology and diagnosis receiving the most attention, the prognosis a short paragraph, and the treatment a line or two; and because I realize that I am treading upon a comparatively Virgin soil.

Until recently the periodicals have contained very scant reading along the line of treatment of the condition. However, in 1908, H. S. Plummer reported forty cases of cardiospasm all ot which, excepting four cases, were treated by non-surgical means, and it is this part of the field that I want to take up in detail, because I believe in the end that it offers the best results, so far as the permeable variety of cardiospasm is concerned and it is much less severe than the other. Also, Willy Myers, J. H. Iden, each reported a case in the *Jour. A. M. A.* of May 20, 1911, treated successively in the one case by Thoracostomy and oesophagoplication and in the other gastrostomy and dilatation.

Cardiospasm is a contraction of the circular fibres of the cardiac orifice of the stomach or oesophageal opening into the stomach causing dilatation of the oesophagus and retention of food with periodic regurgitation.

The causes of the condition are, first, oesophagitis; second, paralysis of the vagus; third, congenital disposition; fourth, ulcer of cardia; and fifth, hyperacid condition of the stomach juice. I believe the latter is true, because I have found the condition of Hyperchlorhydria to be present in all my cases, which to date number seven, and when the condition of hyperacidity was ameliorated, the spasm was much less apt to appear.

According to statistics at the present time it is about equally predominant in both sexes; four of my cases being male, and three female, and it is more apt to occur before the age of forty, although one of my cases was nearly forty-seven years old. Most authors agree that after the age of forty, symptoms of spasm of the cardia are quite apt to be due to malignant disease. Worry or grief and rapid eating—bolting of food—are prone to excite attacks of cardiospasm. All of my patients were of a nervous excitable temperament or were inclined to worry over work or business troubles.

The patients usually come, complaining of difficulty in swallowing food of all kinds and state that after making an effort to swallow several mouthfuls they will experience a "cracking" sound and the food will be forcibly regurgitated into the mouth; that the food tastes the same as when swallowed and that they do not experience the same sensations as when vomiting. There is no contraction of the abdominal muscles and no nausea. There

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

is a feeling of great pressure or weight, sometimes amounting to pain, just back of the lower end of the sternum, after attempting to swallow several mouthfuls. Often by making several efforts at swallowing, by holding the breath, or by clasping the neck with the hand and pressing forcibly while making the attempt at swallowing, food can be forced to enter the stomach and the patient can always tell when it does so by a feeling of relaxation just back of the end of the sternum and feeling the food drop in the stomach. Sometimes not all of the food is regurgitated but will remain in the oesophagus long enough to ferment or putrefy, fouling the breath of the patient. This, however, happens only when the condition has lasted a considerable length of time and the oesophagus has been extremely dilated above the spasm. When the stomach tube is introduced there are large quantities of mucus returned with food particles.

These attacks of spasm are more apt to be periodical than constant, appearing and disappearing at intervals of several days or weeks; and, as the condition lasts, the intervals become shorter and further apart. Such patients have their rest disturbed at night by the return of mucus and food in the pharynx, causing them to choke and strangle when assuming a reclining position.

The diagnosis is very important, because we must know whether we are dealing with inflammation, malignant disease, impacted foreign bodies, or diverticulum. To distinguish from the latter condition it must be remembered that there can be no real vomiting of stomach contents during the spasm. Only the contents of the oesophagus can be emptied, whereas in diverticulum, the stomach may regurgitate food, although the diverticulum may remain full. For these observations the use of bismuth suspension and the flouroscope are necessary. The most useful instruments at our hands are the stomach tube, the olive tipped bougies, and the flexible elastic bougies. It is sometimes found that different sized bougies will pass at different times. If large sounds do not pass, an anesthetic may be used, and if the sound then passes, the condition is spasmodic. Or if, after the use of antispasmodics, such as the bromides belladonna, the stenosis relaxes, the condition can certainly be diagnosed as spasmodic.

In the use of the oesophagoscope nothing satisfactory can be learned except to prove the condition is not malignant because the instrument can not be used without an anesthetic and when that is used the spasm disappears.

Cardiospasm is of two kinds, permeable and impermeable. I have never seen a case of impermeable cardiospasm, but I should imagine that as such it is a surgical case; however, before referring such a case to the surgeon an attempt to get beyond the spasm should be made.

My procedure is as follows: First, attempt to pass a number twenty-one stomach tube in the usual way. If it is grasped at the lower end by the spasm, wait a few moments, and then ask the patient to make a strong effort to swallow and when he begins the act, begin to count slowly from one to seven, or wait about seven seconds, and then push on the tube gently. Should the tube not pass through into the stomach, pull it back until the lower end is at about the middle of the oesophagus, and ask the patient to again swallow forcibly, and count, or wait about five seconds, and allow the tube to slip gently down the oesophagus until it arrives at the stricture, when slight pressure should be exerted upon it.

When the spasm has lasted over a period

of several years, the dilatation of the oesophagus, which may have been fusiform at first, later becomes sacculated at the lower end, and when pressure is used on the stomach tube or the gum elastic bougie, it slips away from the opening, consequently it is inadvisable to use very much force because of danger of injuring the mucous membrane which is apt to increase the spasm.

If the tube can not be made to pass the obstruction, a flexible bougie should be tried in the above described manner. This being more stiff and firm, greater force can be used upon it and it will not bend or double upon itself so easily.

If, after a few attempts, the bougie does not pass, the patient should be made to swallow about seven yards of coarse silk thread. Take about twelve hours to perform the operation and meanwhile he may attempt at three hour intervals to swallow milk or water or gruel. In doing this the spasm is relaxed enough to allow the passing of the thread. At the same time sodium bromide, together with belladonna, are given every four hours per rectum.

At the end of twelve hours the thread is passed through the eyelet of the smallest olive and drawn upon until considerable resistance is felt; now the bougie is pushed into the pharnyx by placing it on the tongue at one side of the base and pressed down by the forefinger of the left hand and it will enter the oesophagus without any trouble. Meanwhile the thread should be held taut as the bougie is slipped downward. When the stricture is reached, the patient should be instructed to swallow and then most usually the bougie will be felt to slip through into the stomach and one can increase the size of the olives at liberty. Just here is where most attempts to cure obstinate cases of cardiospasm fail, because the stretching is not done properly.

Previous to the time at which the article of Plummer appeared in the *Jour. A. M. A.*, 1908, I had been treating two cases by dilatation with the olive tipped bougies and had met with very poor success, because the dilatation or force exerted by them is in a vertical direction and very little laterally, whereas, in order to stretch the muscle fibre sufficiently to overcome the spasm the force should be exerted laterally.

In his report Dr. Plummer described a hydrostatic dilator which he devised and which I begun to use with very excellent results. This dilator consists of an olive-tipped whalebone bougie with a rubber tube covering which is fastened to the lower end of the stem of the bougie just above the olive. About five inches up the rubber tube is perforated. This perforated part is covered with a fusiform rubber bag; and is covered with a silk bag and over the outside of the silk bag is another fusiform rubber bag. The proximal end of this is connected to the water tap and passes through a pressure gauge. There is a Y tube in front of the pressure gauge which acts as an outlet for the water. To raise the pressure and fill the dilator, this latter tube is pressed between the fingers and the dilator can be increased to any size desired by watching the pressure gauge.

The olives of this dilator are perforated and in place of using the simple olive-tipped bougie, I now use this dilator, after having the patient swallow the thread in the above mentioned manner and thus, after the olive tip has passed through the stricture, the dilator is in position and can be attached to the water tap and the spasm dilated laterally.

The manipulation of the dilator which produces the best results is to massage the stricture in much the same way that one would dilate the anal sphincter. One is less liable to injure the mucous mem-

brane and the pain is not so great, which is a great factor.

This can be done by closing and opening the outlet tube, thereby increasing and decreasing the amount of pressure in the dilator. After massaging the stricture in this way mechanically for three minutes, it can be held at the maximum pressure for another minute and then the dilator should be disconnected from the hydrant and the water allowed to drain out of the dilator, after which it can be removed from the oesophagus very easily.

Following the dilatation it is always well to wash the stomach. These dilatations should be performed every second day until the symptoms have disappeared and the cardia has been dilated to its full width.

The prognosis in these cases is usually very good. After the spasm has been dilated two or three times, the patient begins to take on flesh rapidly. Two of my cases have remained well for two years. Of the remaining five four are well, but too short a time has elapsed to be too sanguine about the results, and one is still under treatment, but is improving.

DISCUSSION

Doctor Bailey: I want to ask the speaker his experience with cardiospasm in incipient cancer. I had a case of cancer about seven or eight years ago. There apparently were no symptoms at all except those of cardiospasm, and the attacks would last for about two hours.

G. W. McCaskey, Fort Wayne, Indiana: That brings up the subject of a malignant disease as an etiological factor of cardiospasm. I believe a cancer in or near the cardia is a frequent cause of cardiospasm; and in one or two instances I have been for some time deceived by what was unquestionably a clear case of cardiospasm, but which was all due to a malignant disease. It seems perfectly obvious that the clinical picture described by the essayist, and which we commonly understand by the term "cardiospasm," does not develop suddenly. It is a gradual evolution; and if we could get those cases during this evolutionary period, it seems quite probable that our treatment might be more effective. In fact, I think there are some of these cases that begin in the same way as the severer type of cardiospasm, and get well without ever reaching that type; at least, I have had such cases, in which there were the minor symptoms and graver symptoms of spasmodic contractions, with more or less resistance, troublesome conditions in cardiospasm, which would disappear with the disappearance of the neurotic basis which underlaid them.

Doctor Campau, Toronto: There is another picture in the cause, I think, of cardiospasm, and that is traumatism. Many of the patients are women who bear children. Some traumatism, especially to the lower end of the esophagus, exists, And there is another cause, too, that I have found in my practice: I found that alcoholism in the aged is a cause of cardiospasm.

W. H. Enders, Jackson, closing: I think the gentlemen who discussed the paper have made the mistake in not distinguishing between cardiospasm and stricture. Stricture is usually due to the drinking of corrosives, and to malignant disease; and cardiospasm, per se, is not—the cause of it lies in an entirely different direction. Usually some nervous or muscular trouble precedes it. Esophagitis and irritation of the mucous membrane of the esophagus is quite apt to cause it; but not any organic condition in the esophagus itself is classed as cardiospasm. I do not understand the question of Doctor Campau?

Doctor Campau: I just wanted to ask you your experience in cardiospasm in a case of incipient carcinoma of the stomach. I had a case of cardiospasm which seemed to clear up, but in about two or three months the patient had another attack of cardiospasm, and it developed eventually into a general case of carcinoma of the stomach.

Doctor Enders: I never had a case of that character; but just here comes the question brought up by Doctor McCaskey, in which he said his cases had all begun in a rather obscure manner. Now, the history of the cases which I had, which number seven, and, as I have mentioned, have all begun rather suddenly, due to some fright or anger, or the swallowing of some hard object, or food which was not thor-

oughly masticated—every one of them gave a history of following rather quickly after some such a condition as I have mentioned. I do not recall any of the histories which began early, except one, which is the last one I am treating, and I have not completed the treatment, but the case has shown a great deal of improvement. It began last May, was referred to me by Doctor Robinson, and is a case of pretty clear-cut cardiospasm. The patient is now twenty-two years of age. The attacks of cardiospasm appeared about every three or four months, and of late were getting more frequent.

GYNECOLOGICAL HINTS

Waldo in *International Journal of Surgery.*

Acute appendicitis during pregnancy at any stage should be operated on. In the first five months a chronically inflamed appendix should be removed, for if it is allowed to remain, an acute attack is very apt to occur during the last part of gestation. In many instances an operation for appendicitis will not produce abortion. In any laparotomy during pregnancy a fairly liberal use of morphin is indicated.

An elective Caesarean operation is much to be preferred to a difficult craniotomy and, in many instances, to a hazardous high forceps delivery. Results are better where the uterus is incised high up in the median line but not removed from the abdomen. The application of an elastic ligature around the lower part of the uterus to prevent hemorrhage during the operation is a relic of the past; it usually increases the bleeding.

A gangrenous or sloughing interstitial fibroid demands immediate hysterectomy. It is not an infrequent complication of abortion where part of the secundines have been retained. This complication is much less frequent where the child has been carried to full term. In all cases it is well to drain through the vagina.

Pyelitis is quite a frequent complication of pregnancy and the puerperal state, and whenever there is severe pain in the back or urinary symptoms are present this fact should be remembered, and a thorough examination made to determine the presence or absence of this condition.

A fibroid tumor in the lower portion of the uterus, especially if it blocks up the pelvis, is a very serious complication of pregnancy and frequently necessitates a hysterectomy.

Any irregularity in the menstrual flow demands a thorough investigation, for in many instances it is the principal symptom of extra-uterine pregnancy. This fall I have seen three cases in which the existence of this condition was confirmed by operation, though there were no classic symptoms and the diagnosis could only be made by a most careful examination. In each instance the menstrual flow was changed, but the woman did not suspect pregnancy.

PERNICIOUS ANAEMIA

BURTON R. CORBUS, B.S., M.D.
Grand Rapids, Mich.

I present to you in this paper certain views on the causation of pernicious anaemia which, though enthusiastically upheld by many of the profession, have not received the acceptance which they merit.

The evidence produced may not, in all respects, withstand the brighter light of future investigations, but there is sufficient, in my opinion, to permit us to hold a more optimistic viewpoint in regard to that dread disease and to justify us in the most sincere efforts directed toward the prophylaxis and cure of the individual case, by the application of the principles to be here suggested.

First, I wish to bring before you that splendid word picture of "Pernicious Anaemia" as drawn for us, in 1855, by Doctor Thomas Addison.

"For a long period I had, from time to time, met with a very remarkable form of general anaemia, occurring without any discoverable cause whatever, cases in which there had been no previous loss of blood, no exhausting diarrhoea, no chlorosis, no purpura, no renal, no splenic, miasmatic, granular, strumous or malignant disease.

"It makes its approach in so slow and insidious a manner that the patient can hardly fix the date to his earliest feeling of that languor which is shortly to become so extreme. The countenance gets pale; the whites of the eyes become pearly; the general frame flabby rather than wasted; the pulse perhaps large, but remarkably soft and compressible, and occasionally with a slight jerk, especially under the slightest excitement. There is an increasing indisposition to exertion, with an uncomfortable feeling of faintness or breathlessness on attempting it; the heart is readily made to palpitate; the whole surface of the body presents a blanched, smooth and waxy appearance; the lips, gums and tongue seem bloodless; the flabbiness of the solids increases; the appetite fails; the extreme languor and faintness supervenes — breathlessness and palpitation being produced by the most trifling exertion or emotion; some slight oedema is probably perceived about the ankles. The debility becomes extreme; the patient can no longer rise from his bed; the mind occasionally wanders; he falls into a prostrate and half torpid state, and, at length, expires. Nevertheless, to the very last, and after a sickness of perhaps several months' duration, the bulkiness of the general frame, and obesity often present a most striking contrast to the failure and exhaustion observable in every other respect.

"With perhaps a single exception, the disease, in my own experience, resisted all remedial efforts, and sooner or later terminated fatally.

"On examining the bodies of such patients after death, I have failed to discover any organic lesion that could properly or reasonably be assigned as an ade-

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

quate cause of such serious consequence."

No better picture of the general features of the disease could be drawn, but in the light of modern investigation and from the standpoint of differential diagnosis, it requires some amplification. I call your attention briefly to the constant, though moderate, rise in temperature; to the dilatation of the heart with systolic murmurs; to the disturbances of the nervous system, ranging from the very frequent anesthesias and paresthesias of the extremities, to symptoms strongly suggestive of tabes and spastic parplegia; to the almost constant lack of free hydrochloric acid in the stomach, and the usually accompanying atrophy of all the gastric glands; to the marked tendency to retinal hemorrhage (this being often a valuable point in differential diagnosis), and, lastly, to the quite significant characteristic changes in the count and form of the red blood cell.

It would seem that the picture of pernicious anaemia as drawn here was clear enough, but, like all definite pictures of a disease entity, it describes essentially the full-blown typical case, and the symptoms of the individual patient often, yes, usually, fall far short of conforming to the picture.

A second difficulty, and one of greater importance, arises from the fact that pictures almost, or quite, identical in their main features, may arise from without that group of anaemias which, by common consent, we have been pleased to term "pernicious." "We have to understand," so Grawitz puts it, "under the term 'pernicious anaemia' such very grave forms of anaemia as arise without any recognizable organic affection, and without parasitic influence, as the result of specific injury to the red blood cells."

It has been conclusively proved by Schaumann that the Bothrocephalus Latus, the fish tape worm, can produce an anaemia identical in all respects to pernicious anaemia. The Ankylostome and the Uncinaria, the hook worm, have likewise been proved guilty.

Syphilitic anaemias have been reported which conform to the type. Blood findings which are identical with that of the disease under consideration are not infrequently found in the course of a carcinoma, and Bunting, in the Johns Hopkins Research Laboratory, has shown that it is possible to produce in rabbits the characteristic blood changes by the administration of ricin.

I have spoken of the characteristic blood changes and I digress for a moment to refresh your memory. Cabot, in Osler's Modern Medicine, gives the following as the characteristic findings "which make the diagnosis positive in a case presenting suspicious clinical symptoms."

First. A reduction of the number of red cells to a point usually below 2,000,000 per cubic centimeter.

Second. A high color index.

Third. A normal or subnormal leukocyte count.

Fourth. (In a stained-film specimen), a predominance of abnormally large, greatly deformed, more or less abnormally stained, red corpuscles, some of which contain neuclei.

This certainly is the accepted view, a view, by the way, based on Ehrlich's early theory of megaloblastic reaction of the red bone marrow, and as part of this view we accept the presence of numerous megaloblasts as the essential of the specific blood picture.

I think it well to add here, with some emphasis, that some later investigators are not so in accord with this view of the importance of a corpuscular change absolutely specific for the disease. Those investigators question the preponderance of extra large cells, lay stress on the great

variation of the size of the cell, and believe that the haemoglobin index is abnormally high because only the developed cells are counted, and the extremely small poikylocytes and cell fragments, all containing haemoglobin, are unconsidered.

While I have asked you to clearly separate in your own mind the severe anaemias due to demonstrable causes which make the anaemias truly secondary from the anaemias due to causes more obscure, which by common consent are termed primary, I am not forgetful of the fact that, after all, we may ultimately find through the study of the metabolic chemistry of the body, a toxin which may be common to all forms; a toxin which may be specific in character, but have various origins. In this connection I must mention the fact that a haemolytic lipoid substance has been segregated from the bothrocephalus, and the ankylostoma duodenalis by Talquist, which is destructive to red blood cells, and which will produce a typical pernicious anaemia; that a similar substance has been obtained from cancer masses and from gastro-intestinal mucosa, following a chronic inflammation. But whether or not there exists an identical poison which, though occurring under different conditions, may produce common symptoms, or whether various toxins arising under the most diverse conditions, produce the same symptoms, is not especially material to the phase of the question which I am particularly interested in presenting to you.

In 1903 it was my privilege to attend a number of lectures given by Prof. Grawitz to the students of the University of Berlin. I remember the surprise and the incredulity with which the Americans present received his optimistic views on pernicious anaemia, and his statement as to the number of his cases that had been apparently cured. Taught to consider pernicious anaemia a hopeless disease—subject, it is true, to periods of remission, but, after all, practically hopeless—we found it hard not to be incredulous.

At the end of a special course which the Professor was good enough to give us, we were all, I am sure, willing to accept his views, at least to the point of trying out their practical application. For my own part, suffice it to say that I have been able to follow the course of two of my patients who have been reasonably consistent throughout in following the treatment, the one for five years, the other nearly seven—the seven year case suffering no relapse, the five year case having had no relapse in the past four years—both periods, if they are but remissions, being far beyond the ordinary remission period.

Prof. Grawitz based his treatment at that time on his theory of auto-intoxication origin; that the origin of pernicious anaemia was to be found in a toxin or toxins formed in the gastro-intestinal tract. His recent aritcles show that he has not abated his ideas one iota.

Many investigators of a somewhat earlier date, as well as those of today, have believed in the gastro-intestinal origin of pernicious anaemia. Doctor Copeland, in Allbutt's System, says:

"Pernicious anaemia, then, signifies a definite group of clinical pathological phenomena dependent upon a special form of blood destruction, or haemolysis induced by toxic agents absorbed from the gasro-intestinal tract.

"This haemolysis takes place within the area of the portal circulation and not in that of the systemic."

Hunter, in the British Medical Journal, Nov. 9th, 1907, says:

"Progressive pernicious anaemia should not be regarded as anything but a definite,

specific, haemolytic, infective disease." In another article his conclusions were briefly, "that pernicious anaemia is a specific, clinical condition, resulting from excessive haemolysis occurring chiefly in the portal system, and brought about by intestinal intoxication, in which the products of growth of specific bacteria are probably concerned."

Hollis and Ditman, in the New York Medical Record, thus express their views: "The opinion has steadily grown that the most frequent, if not the essential, cause of progressive, pernicious anaemia is to be found in the peculiar toxaemia of intestinal origin, with or without organic lesions of the mucosa."

Bunting, whose work I have earlier mentioned, explains the reason why a toxin produces a pernicious anaemia in one instance and in another a secondary anaemia, on the following grounds, based largely on experimental work: When a haemolytic substance is absorbed into the circulating blood in such quantities that it not only destroys circulating red blood cells, but also injures the erythrogenetic cells of the bone marrow, a typical blood formation occurs and the picture of pernicious anaemia results. A secondary anaemia is produced when the absorption into the circulation of a toxic agent is so gradual that the toxin is completely anchored by the red cells; causing only their destruction, leaving the marrow not only uninjured but actually stimulated to the production of normal non-nucleated red blood cells.

Grawitz reaffirms his earlier view in a paper read last fall before the New York Academy of Medicine, and says: "As the most important, and, according to my experience, the most frequent cause of pernicious anaemia, I regard intestinal intoxication. I think that in all these patients, primarily a lack of free hydrochloric acid in the stomach plays an important part. Owing to this fact, toxic substances in albuminious food stuffs may be formed."

In a recent article "Chronic Toxaemias Arising from the Intestinal Tract"* I said: "It seems to me that we are forced to consider hepatic insufficiency as the foundation for the greater number of our chronic little understood diseases—an acceptation of the view that hepatic insufficiency is the under-lying factor in these diseases of metabolism and an early recognition of such a chronic toxaemia will lead, I firmly believe, to the prevention of the greater number of such diseases as chronic nephritis, arthritis deformans, arterio-sclerosis and pernicious anaemia."

To make clear just what we mean by liver insufficiency, it will be necessary for me to go back to the digestive tract and the poisons formed therein. In the term auto-intoxication is involved the production of poisons not only in the intestinal tract through an altered chemism of digestion or through abnormal putrefaction of proteids and fermentation of carbohydrates, but it also embraces those poisons formed in the interior of cells incident to a normal metabolism. We must further recognize that there is such a toxaemia only when there is either, first, an over production of poisons; second, an impaired excretion; third, and most important, when the detoxifying power possessed by various organs, chiefly the liver, is insufficient.

In the course of even a normal digestion, there are formed substance incompletely oxidized, intermediate products in the degradation of carbohydrates, fats and proteids, that are extremely toxic in character, with an abnormal digestion, these products are enormously increased. At this time, I again call your attention

*Jour. M. S. M. S., June, 1910.

to the fact that there is in pernicious anaemia almost invariably a true atrophy of the gastric glands, and consequent absolute failure of gastric digestion.

In addition to these products of purely chemical change, we have the far more important products of bacterial invasion. You will realize that in the absence of the deterrent effect of hydrochloric acid, bacterial invasion can occur with greatest ease.

Of these products of proteid putrefaction those of special interest to us are the purins, since in their intermediate metabolism, substances of the greatest virulency are formed. Of these substances, uric acid and xanthin, hypoxanthin, guanin, caffeine and theobromine are types; these are sometimes spoken of as the alloxuric bases.

These purin bodies occur in part as a result of cell destruction and nuclein disintegration. In large amounts they are derived from the ingestion of proteid food, of which liver, sweetbreads, beef extracts and butchers meat contain the largest percentage. I want to emphasize the fact that all the products of purin metabolism from the beginning until the liver has oxidized them to the inocuous urea, are virulent poisons.

Now, how are these toxins disposed of? First, by the bowel excretion; second, by detoxification.

Though it is highly probable that other organs possessing an internal secretion are concerned in this detoxifying process, it is the liver which is the great sentinel of systemic integrity. This function of the liver has, as you know, long been recognized, and I recall to your mind the fact that if in a dog the portal blood be conducted directly to the vena cava, a severe intoxication occurs, usually resulting in death. It is manifestly impossible for me to consider at length this detoxifying process, much evidence of which has been produced, much of which remains to be produced. I want, however, to lay particular stress upon this point: That from the purin basis of the proteid to the inocuous urea is a long step; that the conversion occurs in the liver, and that any deviation, any interruption in the process, results in a virulent poison being thrown into the general circulation. I want to emphasize the fact that the phenomena of liver-insufficiency may result from an over production of poison, from the production of such an amount of poison that the liver is overwhelmed, or from a liver whose function is limited. It is well to remember that the liver cell itself may be injured or destroyed by this excessive amount of poison, and that, in consequence, further abnormal products may be formed.

If we accept liver insufficiency as the cause of pernicious anaemia, and please remember that under our definition, pernicious anaemia must be an anaemia without determinable organic or parasitic cause, what shall the treatment be?

First. Free elimination. Thorough persistent daily irrigation of the bowel through weeks and months is, perhaps, the most important factor in the treatment. One may expect to find a certain advantage in the use of non-irritating antiseptic solutions. Witherspoon reports a severe case in which an appendicostomy was performed followed by colonic irrigation. The result was most favorable.

Routine gastric lavage is advised—the rationale for which may lie in those experiments which show a haemolytic lipoid in chronically inflamed gastric mucosa.

Second. The supplying of ferments so that digestion may proceed within the non-competent stomach.

Third. The reduction of animal proteid to the point of individual tolerance.

Fourth. Direct medication. The some-

what empirical long accepted arsenical treatment is still our sheet-anchor.

I prefer the sodium cacodylate, administered in gradually increasing doses, from ½ to 3 grains, with periods of remissions. Other forms of arsenic have their advocates, including of late Ehrlich's Salvarsan. Bone-marrow has its friends, although the recent experiments of Vetlesen would suggest that perhaps the menstrum, glycerin, was the actual remedial agent.

Transfusion of blood has but few advocates. Certainly, if used at all, it must be only after careful determination of it's haemolyzing and agglutinating power.

The use of defibrinated blood is not so objectionable, and Huber finds that it is an excellent remedy to influence favorably severe and most serious chronic anaemias, and, in some cases, may prolong threatened death for months.

DISCUSSION

A. W. HEWLETT, Ann Arbbor: We are indebted to Dr. Corbus for a very valuable resume of recent views concerning the nature of pernicious anaemia. I think he is very sound in his view that it is due to some unknown toxic substance which probably acts primarily on the bone marrow. His suggestion that the liver is at fault is interesting, but it would require a great deal of work to prove such a theory. The value of such suggestions, it seems to me, depends upon the extent to which they stimulate new work which will increase the number of facts at our disposal. I am not convinced of the efficacy of the Grawitz treatment. Others have used it without the success claimed for it by its author. At the University Hospital we still pursue the treatment instituted by Dr. Dock. This consists of rest in bed, preferably out of doors, ascending doses of Fowler's solution, and the use of hydrochloric acid after meals. The latter probably exerts a certain amount of antiseptic action upon the intestines, directly or indirectly. Our results have been satisfactory in bringing about remissions, but poor for ultimate recovery.

DOCTOR MOORE: I think the general practitioner, from a practical standpoint, would get much more benefit out of the consideration of the prognosis of these cases of so-called pernicious anaemia. From the standpoint of the general practitioner, anaemias are divided into those anaemias which get well, and those which do not. Now, the diagnosis of pernicious anaemia is sometimes made, and the case goes on a very favorable course and gets well, and the practitioner thinks he has cured a case of pernicious anaemia; and other cases which he diagnoses as secondary anaemia, go on in spite of the treatment he may give them. I remember now the case of a young woman who had given birth six months previously to a child. She had developed a case of anaemia, and her red count at the time was 800,000. Her lymphocytic count was fifty-nine per cent of the total white count, and the total white count was 5,000. She did have megaloblasts off and on, which seemed to come in megaloblastic showers. Now, then, in a general way, that was a pretty good basis for a laboratory pernicious anaemia. We had increased lymphocytosis, and, except for a slight stasis—some macrocytes and some microcytes—we had a pretty good picture, On the other hand, in the clinical side of the case the patient didn't have the least bit of color; she simply was blanched. The history showed she had no trouble during pregnancy, and there had been no hemorrhage. She had never had any vomiting, and her stomach finding didn't show anything. The patient got well very promptly, and the question for a very long time was as to what prognosis to give. The patient herself knew a good deal about her anaemia, because her mother had died of it. She said; "If I have pernicious anaemia, tell me, because I want to know whether I am going to die or not, and if I have not got it, I want to know also." The prognosis should be very guarded, I think, in these cases, because from the laboratory stand-point, you are not always sure.

G. W. MCCASKEY, Fort Wayne, Indiana: I hesitate to get upon the floor again, but I am extremely interested in this subject of pernicious anaemia. I do not intend to discuss the subject from a general point of view at all. I simply want to say, in brief, that in my opinion, the best established view is that it is due to an unknown toxin acting, I believe, not upon the bone marrow *per se*, but upon the blood. This

seems to be the view held by Cabot in his recent monograph in Osler's System of Medicine. Now, recently, within a couple of years, I have been attracted by the problem of accounting for the fever, which the doctor states, and which we all know, is so frequently present in pernicious anemia. I have studied seven cases with reference to this particular problem, and in every one of those cases in which there was fever, I have found a streptococcemia. Now, I am not going to discuss the matter further than to present a few conclusions appended to a paper here which I will present to the Indiana State Medical Society tomorrow morning and which will explain themselves. They are based on a study of seven cases, in four of which (all that had fever) a streptococcus was found in the blood.

The following conclusions concerning the streptococcic infection found in this series of cases of pernicious anaemia, though probably needing more extended observation for their complete verification, appear to me justifiable:

CONCLUSIONS

1. Streptococcemias and possibly other bacteremias are not infrequent incidents in pernicious anaemia.

2. The streptococcemia probably bears no relation to the real pathology of the disease, the micro-organisms entering the blood stream most frequently from the intestines, and existing there because of the lowered power of the immune bodies.

3. The bacteremia is clinically very important, the toxins causing fever, and very possibly being the usual cause of the slight fever so common in the course of pernicious anemia.

4. The toxins are also hemolytic, becoming auxiliary etiological factors in the disease.

5. The streptococcemia is amenable to treatment by autogenous vaccines derived from cultures made from the patient's blood.

6. Blood cultures should therefore be made in all cases of pernicious anaemia, in which elevation of temperature, even though slight, occurs.

7. The possibility of streptococcal or other hemolytic bacterial toxins, slowly entering the blood from an obscure nidus, and playing a prominent auxiliary role in the etiology of pernicious anaemia is worth careful investigation.

In regard to the hepatic theory, I can only say that it has a rational basis. If we can assume a breaking down of this function of the liver, it simply unloads more toxins into the circulation, and gives another possible source of toxemias, which may, acting upon the blood, I believe be a cause of haemolysis produced by their slow action.

B. R. Corbus, Grand Rapids, (closing). Dr. McCaskey has—I thank you—expressed just what I wanted to bring out; that this is a rational theory. I know that it is not proved. I wish that I might bring you something which was proved; but I bring before you what I consider to be a rational theory; something to work on. In the minds of so many, pernicious anaemia is a hopeless condition, there is nothing practically to do; the patient is going to die. I am absolutely convinced that this is not necessarily so. I have reported only these two cases for they are the only cases that I have had which have gone far beyond the period where the presumed cure might reasonably be considered to be a remission. In regard to the remission, Grawitz believes the explanation to lie in the analogy of this disease to diabetes, where the patient gets along very nicely on a very limited amount of sugar, but when this is exceeded the symptoms of the disease come on again. So in pernicious anaemia, as the patient improves, he naturally tends to increase his diet. The liver is again overwhelmed with the toxins of the purin-foods and a recurrence occurs.

In regard to the differentiation between anaemias and pernicious anaemias, I brought out in my paper what I thought was an important point; that the true pernicious anaemia must be idiopathic and not secondary to a cause which is determinable, such as syphilis or cancer. The experiments of Bunting suggest that the difference between secondary and primary anaemias may be one of degree only, depending on whether the toxin exerts its influence on the circulating red cell alone or also injures the cell in the bone marrow. So in these anaemic cases which come to us without the typical red cell change but with a high index and with a lack of hydrochloric acid and pepsin in the stomach. We should be on guard, for these are the cases which may and oftentimes do result ultimately in a true pernicious anaemia.

CAESAREAN SECTION THE SECOND TIME IN TWO CASES*

J. H. CARSTENS, M. D.
Detroit, Mich.

Caesarean sections, being sufficiently rare in this country, are always interesting. When that operation has to be performed the second time on the same patient, it is still more interesting and various questions arise.

In the first place. should it be justifiable to make such an operation impossible? In other words, should it not be a rule to sterilize a woman and prevent pregnancies in the future? This is strongly advocated by some and opposed by others, and the question has by no means been settled.

With the increasing safety of the operation, it seems to me that the profession has been more and more inclined to the side of not interfering with future pregnancies, and that is the side I have taken, as it has been impressed upon my mind very strongly in some of my earlier cases.

On account of the difficult labor and manipulations that have been made at delivery, the women are often infected and great danger of puerperal septicemia exists. For this reason, the so-called Porro's operation was most frequently performed in this country twenty years ago. Gradually, however, like with all other abdominal cases, a surgeon was called more frequently in time. The aseptic precautions and the early calling in of help, made the danger of infection less, and thus the necessity for removal of the uterus was decidedly minimized. That has been my experience, and from what I can see, of other abdominal surgeons throughout the country.

Years ago I was called in consultation where we had to perform a craniotomy in a most difficult case and how the woman recovered I don't know, but she did, and I warned her that if she ever got that way again, a Caesarean section would have to be performed.

A few months later, the same thing occurred. She came to see me and I told her what had to be done. She was afraid and consulted some others and finally met a "smart-alec" in her neighborhood who told her that it was all bosh and he would deliver her all right.

Well, the time came, and he was stuck. He got an assistant and finally another and, after trying for 24 hours, they gave up and sent for me. I took her to Harper Hospital and there was nothing to do except a Porro.

Finally, she recovered, and when I meet her off and on, she laments to me about her sterility and says if she could only have a child. This impressed me so strongly that I made up my mind that only in the most exceptional cases would I do the Porro's operation again.

Even if the child is living, it might die and the poor woman would be childless, and, although she may agree to a sterilization at the time and clamor for it, in a short time afterwards she may think entirely different and wish that everything could be undone. For this reason I have

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911

preserved the pelvic organs unless there was disease.

In case of multiple fibroids we must do a hysterectomy. In an ovarian tumor we must remove the diseased organ, but in all cases of bony deformity with the pelvic organs normal, I hold that we should leave the latter intact. The danger of operation, today, is very little, and the danger of the second operation is still less, as the uterus and omentum often become more or less adherent to the anterior abdominal wall so that in some cases the abdominal cavity is not even opened. The advantage of the classical Caesarean section is illustrated by the following cases:

Case 1.—Mrs. G. B., aged 30. Was called in consultation by Dr. Schulte, December 14, 1909. We immediately recognized pelvic deformity, the anteroposterior diameter being 2¾ inches. I took her to Harper Hospital and operated. She had been in labor under the care of a midwife for two days before the doctor saw her, and the child was dead. I performed the usual operation, sewing the uterus with a running cat-gut suture and carefully bringing the peritoneum together with another fine suture. She made a splendid recovery.

February 22, this year, the doctor called me again, same case. I had her removed to Harper Hospital and operated on her. She had been in labor for a few hours, and was in a fine condition. I operated in the usual manner. I found the uterus adherent to the abdominal wall and surrounded by the adherent omentum. Hence, I did not have to enter the abdomnal cavity at all. I quickly delivered the living child and closed up the uterus in the usual manner. In two weeks she returned home rejoicing with a living child.

Case 2.—Mrs. B. K. I was called April 1, 1909. She had been in labor a short time, the same doctor being her attendant. Immediately sent for me and I saw the need of a Caesarean section. Took her to Harper Hospital and operated immediately, delivered her of a living girl she and made a splendid recovery.

July 18th, this year, was called up by telephone. Same woman was in labor again. Sent the ambulance to take her to Harper Hospital and operated as soon as she could be prepared. In this case there were not so many adhesions as in the preceding one. Operation was easy. Delivered her of living girl which was asphyxiated. Closed up the womb in the usual manner. The child lingered on for twelve hours. Undoubtedly there was non-closure of the foramin ovali. The woman made an uneventful recovery.

In conclusion I would say:

1st. If the woman has children and a Caesarean section is required on account of tumors, sterilization is justifiable.

2d. In cases that have been long in labor and there is septic infection, a Porro's operation might be justifiable.

3d. Cases where there is only trouble with the bony structure, the classical Caesarean section should be performed.

4th. In all cases, the exact condition and results should be explained to the patient, not that you will do what she wants, but for the purpose of not giving her a chance to say that you did things to her that she did not want you to do.

DISCUSSION

Frank C. Witter, Petoskey: The question of the justifiability of sterilizing a woman after Caesarean section is one of great importance. A great many times the patient will have been in labor for perhaps 24 to 48 hours before a surgeon is called in consultation. Many times the external genitalia are so swollen and edematous from the repeated attempts at delivery of the child by the family physician that any further attempt at removal of the child, even by evisceration, etc., is exceedingly dangerous, much more so than by abdominal section.

Of course the patient is not in the best condition for an operation, for often the uterus has been punctured or ruptured but it seems the only probable method of giving the mother a chance for her life. Under such circumstances I think sterilization justifiable. The probability of formation of adhesions after Caesarean section is slight, while after puncture or rupture they are

almost certain. I have seen this in two instances where the adhesions to the intestines and parietal peritoneum were extensive. On the other hand, when the patient can be kept under observation the Caesarean operation can be repeated two or three times with good results. The patient invariably asks to be sterilized at the second operation, when the question arises—is it justifiable? Are we entitled to go ahead and sterilize the woman at her own request?

This thing has been brought to my notice several times and I have been in a quandary what to do.

Dr. Carstens: What would you say? That is what I am trying to find out.

Dr. J. N. Bell, Detroit: The subject of sterilizing the patient is perhaps the most important point to be taken up in discussion. It has always seemed to me that it is largely one of the surroundings and circumstances. If a patient is in good surroundings and has not been subjected to very much manipulation, and is perhaps the mother of one or two children only, we should leave the uterus there. If we are reasonably sure that we have been clean, and the man who has perhaps examined the patient before, or made an attempt to deliver, has understood what surgical cleanliness is, we ought to give that woman a chance and leave the uterus there. There are cases of election, that is, cases where we elect to do an operation and there are other cases where attempts at delivery have been tried, and in only two of them has it been necessary, in my experience, to remove the uterus. In the others I left the uterus there, and they all made prompt recoveries and are in good condition. I have had only one case where the operation was performed the second itme, and that time I examined the anterior surface of the uterus to see if I could find a scar, but could find none. She made an uninterrupted recovery, and there is a chance for her to have a third operation.

F. L. Tupper, Flint: It seems to me that one thing should be impressed on physicians in general, and that is, that they should know when a Caesarean section is indicated. There are so many cases in which the diameters, and general contour of the bony structures are abnormal, that unless great care is taken in the examination before, or at the time of labor, to determine when forceps may be applied to advantage, irreparable damage is done, and in many cases there is a needless loss of life, to say nothing of the anguish endured by the unfortunate patient.

J. J. Reycraft, Petosky: Regarding the matter of sterilization, Dr. Carstens gave two operations for Caesarean section—sterilization of the woman by tying off the tubes or making a hysterectomy, or something like that. Supposing a woman came with a history of having one Caesarean section, with deformed pelvis, and who could not have a live child born, in this case would the medical profession be warranted in producing an abortion before that woman went—in one to four months. In that case is it justifiable to produce an abortion, aside from the thoughts of the clergy? In the State of Michigan, where the law is such that you cannot do it lawfully, it is a question what we should do. My judgment in such cases would be—if I had examined a woman with a deformed pelvis who could not give birth to a living child in the usual way, I would take it on myself to produce an abortion. I would not tell all the clergy. Some clergy in certain churches would be greatly against it. Nothing would warrant such a procedure. Lots of things can be done by a doctor which is not known to the clergy or to anybody. Personally, instead of sterilization, which you will probably not get a chance to accomplish, what you would get would be the determination, after the pregnancy had been progressing for two or three months, whether or not you would produce an abortion. My opinion would be this.

Rosalie Slaughter Morton, New York: It gives me a great deal of pleasure to be a guest at the meeting of the Michigan State Medical Society, and especially to hear the interesting papers which have been read before this section. Regarding the paper which you have graciously called upon me to discuss, I had the pleasure of seeing Dr. Carstens perform a Caesarean section last week, which, from the time when the abdominal incision was made to the delivery of the child, occupied two minutes. The pelvis had not been measured, instrumental delivery and version had both been attempted before the patient was brought to the hospital, the woman had been in labor twelve hours or more, and yet under these adverse circumstances when, this morning, the wound was dressed for the first time it was in perfect condition. The patient has had no rise of temperature or discomfort. Citing this case as an example, I think with the perfected technique of modern surgery the patient runs little risk in a Caesarean section, and with a deformed pelvis it is, in my opinion, the method to be preferred.

I cannot agree with my colleague who thinks it is best to perform an abortion; for with the pelvis properly measured, it is easy to prepare in advance for a Caesarean section, and it is fairer to both mother and child; in fact, I think an abortion should only be performed as a last resort to save a mother's life.

Regarding several Caesarean sections on the same patient versus hysterectomy, I am in favor of the former, even when there are small fibroids, for with these removed, the uterus may perform its function for one or more pregnancies, and even if it must eventually be removed, owing to the return of fibroids in greater numbers or larger growths, the woman will have had the happiness of bearing a living child.

Chairman R. R. Smith, Grand Rapids: This matter of repeated Caesarean section came up before the American Gynecological Society a few years ago. There was a considerable number of men who took part in the discussion, representing an experience of many such cases. They were practically all of one opinion; namely, that when pelvic deformity was uncomplicated by uterine fibroids or there were other contraindications, it was better not to sterilize the woman but to let her go on and have further pregnancies and deliver again by Caesarean section, even though that had to be done three or four or even five times, as was reported in some instances. I think with this experience before us we may well afford to be conservative in regard to sterilization at the time of operation.

J. H. Carstens, closing: I do not think there is much to be added on the stand I took. We can see how a woman might have four or five or six Caesarean sections, and my conscience would justify me in sterilizing, if she really had trouble enough and danger enough to really warrant that. But every one don't have as many children as that. There is one other point in connection with that, and that is that a Caesarean section necessarily makes a weak spot in the uterus—you must not forget that, no matter how carefully you sew it, and there are many cases on record where there was a rupture of the uterus afterwards at that particular spot, so that we have got to be careful in a woman who has had a Caesarean section, and not let her go on in labor too long. Of course, it is a great deal a woman's own fault; she goes to another doctor as has been reported, she allows that doctor to fool around and do all kinds of things, and then gets another and another one. She ought to see to it that she had the right doctor, and then she ought to tell that doctor immediately what had been done and what should be expected. The other point I did not want to bring in because that question did not really belong to that, (and I did not want to make the paper too long and have a discussion) and that is the question of bringing on abortion. We are justified in doing that once in a while, in certain cases, where a woman's life is in danger but I think where Caesarean section can be performed with such very little danger, that there is not nearly so much danger in doing a Caesarean section as there is really in causing an abortion.

There is one other point also that should be brought up, and that is the question of inducing premature labor. Of course we all do that. I did it more formerly than I do now—and that is where a woman has a small pelvis, say about 3 inches or something like that, we can bring on labor at 7½ or 8 months, or something like that, and perhaps deliver her of a living child. I advocated that strong formerly, but I gradually became inclined not to advocate it, and rather allowed the woman to go the full term, and the child's chance for living would be better and the danger to her would not be, I think, any greater than it would be in inducing premature labor—so I did not bring that question up.

I agree with what Dr. Morton said and Dr. Smith, and the concensus of opinion was in such cases, that we are not justified in sterilizing a woman, that is the principal thing. I thank you.

1912 DUES ARE NOW DUE AND SHOULD BE PAID BEFORE APRIL FIFTEENTH

PRINCIPLES FOR THE CURE AND TREATMENT OF HERNIAS*

H. E. RANDALL, M. D.
Flint, Mich.

The weakest spot in the male abdominal wall is the internal inguinal ring. Hernias occur at this point, not so much because it is a natural opening for the passage of the spermatic cord as because of the fact that through this opening has passed the testicle, followed with failure to close permanently the pouch of peritoneum that accompanied its passage downward. It is now believed that the greatest factor in the production of hernia is the presence of a preformed sac. Why it should close in some and not in other cases is still unsolved. This peculiarity of development, the passing downward of a generative organ in the male, results in a hernia in one to sixteen of applicants to the military, police, fire or life insurance examinations. If slight but sufficient pressure is made during the first five or six years of life, we may expect, in majority of cases, an obliteration of this sac, with little danger of a hernia later. This pressure is made by wearing a truss, changing it as the child grows larger. A hernia of one side means a large ring on the other side in about half of the cases. Nearly all hernias are of the oblique or indirect variety. In this hernia we have the sac emerging from the internal ring in front of the sepermatic cord. If it be true that all inguinal hernias are due to the invitation of a preformed sac, traumatism plays but a small part in the causation of hernias. A sudden lift or strain pushes a piece of omentum or bowel into this sac or pouch already formed. We can imagine a rupture of muscular tissue to take place allowing a protusion but this is extremely rare, and the hernias occur in the line of least resistance, a natural opening. The internal ring is guarded by the internal oblique muscle and any factor which reduces the tone of that muscle favors the formation of a hernia. This is seen in hernia that have followed operation for appendicectomy, due to the severing of the nerve supply. The ordinary everyday hernia can be satisfactorily explained on the congenital or developmental reasons. In the few direct hernia the cord is always anterior to the sac. The opening of the hernia is not at the internal ring but below it and this should be considered as a true ventral hernia, and calls for an entirely different operation than an indirect hernia.

Reduction of hernias has not been taught in the medical schools as it should be if one judges of the efforts that are made to perform taxis. Pressure will not reduce a hernia. The more pressure that is made in a strangulated hernia, the less chance there is that the hernia will return to the abdomen. A hernia, if it can be gotten back, may be reduced in a very simple manner. I have seen no benefit from cold or hot application, or from bandaging. The fingers, thumb, and forefinger of the left hand in a right-sided hernia are to firmly grasp the sac at the constricted portion which is one of the rings and, after this squezing has lasted

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

for a few minutes, the hernia is grasped by the right hand and pulled out, not in. If the hernia can be moved, pressure with the right hand will succeed in returning the hernia. It must still be more strongly advised that a hernia which is not reducible within four hours should be operated on without delay. A strangulated bowel means gangrene if not relieved. A gangrenous bowel means a resection and a resection under these circumstances means a heavy mortality.

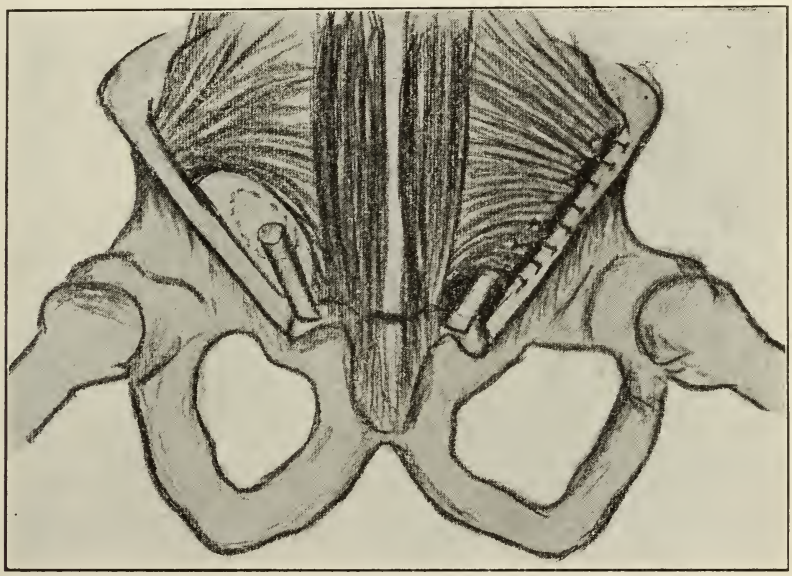


Fig. 1—Showing Deficiency of Internal Oblique to Pourpart's Ligament.

If a preformed sac is the great factor in the formation of hernias, special care must be taken in disposing of the sac. The sac, after being freed and opened to be certain that it is empty, is drawn out and ligated as high up as possible. Oschsner contends that a removal of the sac in femoral hernia is sufficient to cure; that no opening can be kept patulous that is not lined with serous or mucous membrane. I tried this alone in a femoral hernia and it recurred in two months time. In inguinal hernia sometimes the stump sac is drawn over underneath the rectus muscle. If the hernia is of the oblique variety, the closure of the internal ring is the next step. Sometimes we fail at this point, in not excising part of the ring, to get a good raw surface for firm healing. This is the point where the entering wedge of a new hernia will try to get down, and could we be sure of a good union, this might be all that is necessary to do. The next point in operating is to remember that the muscles have lost their tone, from disuse and pressure. The radical operation for hernia should be a plastic operation—fitting the operation to the patient, not the patient to the operation. We must now make a firm abdominal wall. This may be accomplished by sewing the internal oblique muscle and the conjoined tendon to Pourpart's ligament. Ferguson's operation is based on the fact that the upper part of Pourpart ligament has a higher attachment to the internal oblique in the male than in the female.

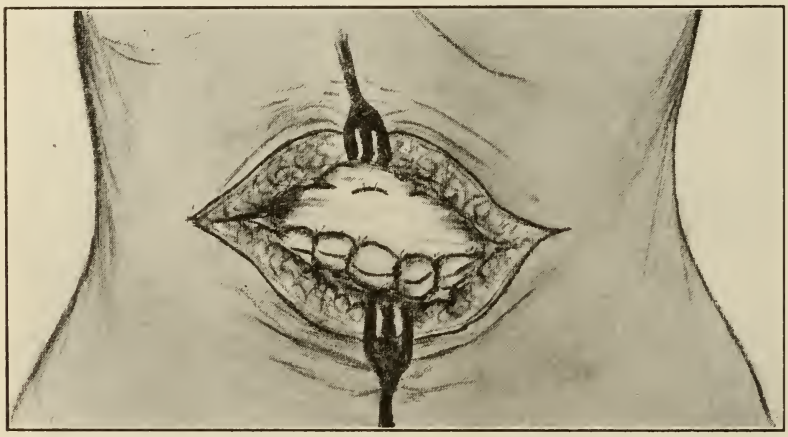
In passing the suture to bring the internal oblique under Pourpart ligament, it should be remembered that there are twenty cases on record of the needle injuring the iliac vessels. This can be avoided by feeling the pulsation of the artery and pressing it downward while the ligament is pulled out by forceps. The line of the deep epigastric vessel should be located to avoid injury to it.

The more resisting fascia is then overlapped, which makes a strong abdominal wall. Suturing of the skin completes the operation. The spermatic cord is left in its old bed. Nothing is gained by making a new canal for it.

The direct inguinal hernia should be regarded as a ventral hernia, and the bad cases are best treated by doing what Bloodgood has recommended, by bringing the rectus muscle over the hernial opening. The treatment of the sac, the sewing of the red muscle to Pourpart ligament, and the overlapping of the fascia, is done similar to the operation for indirect hernia.

In the old large hernia it may be necessary to take a flap from the fascia lata in order to make a firm solid wall.

It is said that medical men learn more from their mistakes than from their successful cases. In surgery the operator learns more from his operative failures than from those cases in which the results have apparently been satisfactory. This is most certainly true of that class of cases in which a surgical attempt has been made to cure a hernia. I have had five failures in hernia cases and these cases are my text. Two of the cases in which recurrences took place were in very large hernias of long standing. One patient was 65 and the other 76. One case recurred six months after operation, the other three years after. Three cases were recurrences in younger men. One case had had a previous operation by a Detroit surgeon and I operated on the other side. Both sides came down the same day eight months after my operation. I shall speak of this case later. Because of the character of his work he should have been advised to wear a double truss. In two other cases the hernia came back above the internal ring. In the two older men I did not expect a cure, as both cases were forced to an operation because of strangulation.



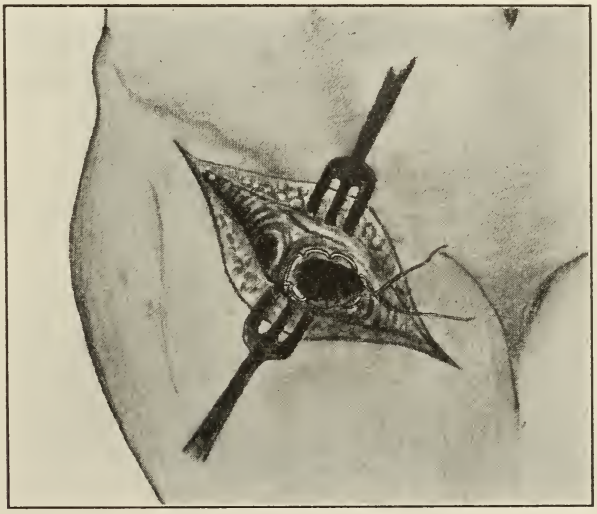
Mayo Operation—Umbilical Hernia.

The man in whom both sides came down was a railroad section man and was reaching down and lifting heavy railroad steel rails, the most dangerous thing for a rupture or for one who has been ruptured. I know of no work that is better adapted to bring on a hernia than is work of this character—reaching down and making a heavy lift. In one case a hernia recurred after a fall.

Three of the operations in which recurrence took place were the Bassini operation. In the other two a Ferguson operation was done. I do not believe it is so much the type of operation as the way we do it. We have very little trouble now with laporatomy wounds. Why do we not have the same success in closing hernias? I believe we make a mistake in doing one type of operation. We should make the operation fit the patient, not the patient the operation. Each of the most popular methods for the radical operation contain principles which should be used.

The essentials of a good operation for an inguinal hernia should be: In the first place an incision three or four inches long should be made to give plenty of room. Failure may be due to a small incision where work can not be done thoroughly. The sac should be separated and opened and excised on a level with the peritoneum so as to leave no dimple in the peritoneum; or the small stump may be carried over and fixed to the posterior surface of the rectus muscle.

The treatment of the internal ring is as important as any step in the operation. This should be closed as tightly as possible without interfering with the blood supply of the cord, and being sure we are getting a good raw surface for healing.



Cushing-Marcy Stitch in Femoral Hernia.

This is the point of the entering edge of a new hernia. The essentials of Bassini operation—to bring the conjoined tendon and the internal oblique to Bourpart's ligament; and the essential point in the Ferguson operation—to remedy the defect in the outer and upper portion between the internal oblique and Pourpart's ligament, which insures a tension on the internal ring. The weak point after a radical operation is just above the internal ring. The muscles after a long standing

hernia are thin from disuse and pressure and advantage should be taken of the firm, unyeilding and inelastic fascia. These structures should be overlapped as much as possible. If careful asepsis has been observed, a cure will take place, but if heavy lifting is to be done a truss should be worn. Patients should be advised to wear a truss and take no chance of a recurrence. This applies only to very hard lifting.

In 78 cases of inguinal hernias operated on there were five recurrences, a percentage of recurrence of six and one half per cent. No mortality. In the large hernias in the old men, it would have been advisable to have taken a flap from the fascia lata to strengthen the abdominal wall. I have had no experience with Willard Bartlett silver filigree method of incorporating large silver wire in the tissues. As the method has been in use for six years with good results, it is a method deserving the attention of suregons in the immense hernia, which are occasionally seen.

FEMORAL HERNIA.

Oschsner's contention that no opening in the body can be kept patulous unless lined with skin or mucous membrane may be true and he has, in several cases of femoral hernia, simply removed the sac, with a cure. The first case in which I tried simply removing the sac in a femoral hernia resulted in a recurrence two months after operation. I reoperated and closed the femoral canal with a Cushing-Marcy purse string suture, with a cure. It will suffice for me to say that all cases of femoral hernia since that time have had more done than removal of sac. The additional stitch to close the ring takes but a few minutes more time, and I believe is necessary for satisfactory results. There have been nine femoral hernias. Two cases of strangulated fermoral hernia died within twenty-four hours after operation.

I wish to report one case which is interesting from the coincidence of appendicitis and hernia. Two weeks previous a hernia had been reduced. There were adhesions around the caecum and, with the history in mind, I examined the internal ring and found the small bowel caught at the internal ring. The caught portion of the bowel was the size of af a ten-cent piece.

In the large umbilical hernias the best results have been with the Mayo method of transverse instead of the ordinary abdominal incision. This operation takes advantage of the ease which an abdominal incision can be brought together in a transverse line and overlapped. By this method many hernias considered inoperable have been cured. I find I can make the best wall with a circular incision, splitting the ring in two halves, then carrying the incision out on each side to the recti musles, then dovetailing and overlapping the flaps. In one case of strangulated umbilical hernia the skin was the only structure in the abdominal wall. I opened the bowel at the very start. This I closed and made a lower incision and pulled the strangulated loop through the ring from the inside of the abdomen. This case was later operated on by Dr. McLean. Some of these cases have had hernias larger than a child's head. In six of these cases so far there have been no recurrence of a hernia.

In writing this paper I have tried to make the following points:

In young patients under five or six years of age the wearing of a truss, changed as the child grows older, will cure the majority of cases. After this age we cannot hope for a cure. There is no objection to operation if desired, if the cases cannot be taken care of otherwise.

The injection method has had many

failures, and has been practically abandoned by the medical profession. The wearing of a truss by those who will not undergo an operation is recommended, but it should be a properly fitting one.

The operation is one with a very small risk, the only danger being the anesthetic. The main objection is the time lost—three or four weeks.

The best operation for an inguinal hernia is a Dastic operation, containing the essential of removal of sac, with the principle of the Bassini and Ferguson operation, with overlapping of the fascia.

DISCUSSION

A. J. Baker, Grand Rapids: In the treatment of hernia there are two factors as causes that are to be taken into consideration—predisposing and active. The predisposing cause is principally due to the position of the internal organs. Knowing that fact, there is only one thing to do—make a restoration of that organ; and care should be taken not to leave the ligatures so that they will interfere with the circulation. Then, when you have restored it, there should not be any more difficulty than in sewing up any incision in the abdomen.

I would not recommend the wearing of a truss at all. I have several hundred cases treated by what may be called the Ferguson method, not all of them, however. Of course, there are conditions in which you have to use the truss.

A Voice: There is one point I would like to bring out: In old men the question is raised as to what age they should be operated on. My experience has been that there is no age in which we cannot operate. I know for years I did not operate on account of age. I remember one old gentleman coming into my office wearing a large grain sack, and in that way tried to keep the hernia from protruding. He was seventy-two years old. I had him on the operating table and successfully operated on; that was some years ago. I have seen him recently, and there has been no recurrence. Now the idea is that there is no age at which we cannot operate for hernia, and I would advise every one to go ahead and operate for hernia as if the patient were a youngster. I have one case two weeks old. I do not know as there is any time in which we cannot operate, and in the case of a small child the quicker we get results the greater the resulting benefits. My advise is if the child is constantly crying, and you are having trouble with it, being called to the house every few hours to see the child, put it right on the operating table, and as the writer of the paper says, I see no danger in the hernia operation, because of all the operations I have done on hernia I have not found a case in which I saw any danger whatever. So far as femoral hernia is concerned, I believe he is right. I never could do anything with femoral surgery, except to tie in the sac. So far as the technique of the operation is concerned, no one can tell you on paper how to do it. I would advise you to get rid of all those names, and all the different celebrities who have operations of their own. If you want a good operation for hernia just attach your own name to it after you have completed it. I never could follow the same method in any two cases. When I see it before me I do not know whether Meigs ever did it that way or not or any other man, but I go ahead and do it my own fashion in the way my own intellect dictates. In nine cases out of ten you will have no trouble with it afterwards. So far as wearing a truss is concerned, it would be a queer case, after I got it fixed, in which I would put a truss on.

Dr. Randall: The only thing I want to speak of is femoral hernia. Just simply separating the sac and tying it is not sufficient. I have found that true in my experience, and I have had to re-operate and put in the circular stitch. This draws up the muscles and closes the opening. Another thing I want to mention and this is, if a man is going to do very heavy lifting it is better for you to advise wearing a truss than to have a recurrence.

GENERAL CONSIDERATIONS OF RENAL SURGERY*

GEORGE C. HAFFORD M. D.
Albion, Mich.

In considering the principles involved in the surgery of the kidney and ureter, we are at once impressed with the difference between them and any other organ of the abdomen. Differences due to location relations, and functions. No other organ in the abdomen can we attack so easily, without entering the peritoneal cavity and having to do with all the principles involved with peritoneal functions.

The kidney, as you know, is developed from the mesodermal layer, being preceded by that complex body which was the complete excretory organ of early fœtal life, the Wolffian body, the other abdominal organs except the spleen, coming from the entodermal layer. The kidney consists of two distinct portions according to their functions, these functions being vicarious, and more or less complimentary to elimination by the skin. It is also believed that the kidney has the function of manufacturing an internal secretion of more or less importance, of which as yet little is known.

The functions, as known, are both secretory and excretory, so we find the organ distinctly divided into parts adapted to these functions. The excretory being the ureter, pelvis, and collecting tubles; the secretory that part of the glomerules and the convoluted tubules.

I shall not take time to enter into complete anatomical detail of these organs and their relations. It must be remembered that we encounter here, at times, various abnormalities—horse-shoe kidney, single kidney, double ureter, etc. The vessels all enter and emerge from one part, the hilum, run along the pyramidal tract, turning at right angles at the base. The anterior and posterior portions of the kidney have each a separate blood supply which do not communicate, therefore between these there is a line of separation where the kidney may be split without danger of hemorrhage, and with the least damage to the circulation. This line is near the longitudinal median line about 5 or 6 mm posterior to it.

The lymph channels all join at the hilum, to empty into the lumbar lymph nodes. Thus we find avenues of infection in the kidney, leading either into the urinary channels, or being caught in the nodes, forming extra-peritoneal abscess pointing in the back or loin.

The nerve supply of the kidney comes from the renal plexus; this is made up of branches from the splanchnics, semi-lunar ganglia, aortic, solar, and spermatic plexes and vagus, thus accounting for the various referred pains in kidney irritation, as in the testicles, penis, back, thigh, and the reflex anuria or oliguria. The ureteral supply is much the same, being from the inferior mesenteric, splanchnic and pelvic.

The kidney is invested by a capsule (tunica fibrosa) which may be easily detached in health, which passes into the hilum, sending out processes to cover the nerves and vessels running back to the aortic sheath and lumbar fascia, forming

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

a part of the attachments for support. Outside this is the loose fatty capsule, a mass of fat with more or less fibrous tissue.

This acts principally as a buffer for the protection of the organ and varies in amount, as in emaciation and in some inflammatory conditions. It is absent in the infant, beginning to develop about the 10th year. This perirenal fat is poorly supplied with blood vessels, hence is frequently affected by abscess, following disease of the kidney or some adjacent structure. The fibrous tissue enclosing this fat varies, but presents certain thickenings. One posterior (retro renalis) continues with the fascia, covering the psoas and quadratus muscles; one on the anterior surface to the subperitoneal tissue behind the colon. This is said to be freqeuntly absent on the right side, accounting in part, perhaps, for the more frequent displacement of the right kidney. In 1905 Dr. Longyear first discribed what he has called the nephrocolic ligament. This is composed of network of fibrous bands-fasiculi passing through the fatty capsule from the lower part of the kidney down to the posterior wall of the ascending colon on the right side, between its peritoneal attachments, and similarly on the left side, to the descending colon. It is, according to Longyear, continuous with the inner and lower point of Gerota's capsule. The traction in cases of fallen kidney, he claims, is responsible for much ptosis of the colon and stomach, which is so common in prolapsed kidney and which gives such a variety of symptoms. These attachments are of great importance in maintaining the organ in its normal position. As a rule, fastening the kidney in position will give no relief if we find that the whole abdominal viscera are prolapsed, but, many times, some of the other organs are prolapsed by the traction of a descended kidney and, in these cases, fixing the kidney will relieve not only the crisis caused by a kinking of the ureter, but will give great relief to constipation and reflex troubles.

Of much interest and importance are the adrenal glands located above each kidney. These bodies, at birth, are as large as in adult life, showing their great importance to health. These organs need not be disturbed in extirpation, or in any of the various procedures we may subject the kidney to, but their location should be kept in mind, as unnecessary roughness in handling may induce changes in their secretions, with corresponding symptoms. I have not been able to find recorded cases, but we know that we do get experiences in thyroid surgery from changed secretions, which are unpleasant, if not fatal, at times, so that it would seem wise, at least, to interfere as little as possible with their relations.

The kidney, being so deeply placed in the body and so well protected, is not very liable to injury, still such injuries are not rare, and are very important. Laceration of the kidney substance, injury to vessels, detachment of the ureter, may all occur with or without external or visible wound. Such cases are reported, even from muscular exertion alone. These are more apt to occur in organs already weakened by disease; as, calculi in the kidney, in ureteral obstruction, etc., and the injury may be easily overlooked, owing to more conspicuous injuries to other organs. Again the previously diseased condition not being realized, we may have a train of symptoms which would not have been present were the organs in a healthy condition at first, hence the importance of remembering, in all kidney injuries, the possibility of previous diseased conditions.

In estimating the reflex results on the kidney remaining, after serious operation

on the other, we have to take into account the functional condition of the operated one as well as the one to be left undisturbed; thus, a healthy organ removed and the whole work of elimination put suddenly upon the other healthy one will cause more reflex disturbances, oliguria, anuria, etc., than had the one removed been slightly diseased for some time. In the latter case the work would have been for some time gradually taken up by the one left and the change, for this reason, would not cause the same amount of reflex disturbances. The physiological effect of removing a sound kidney is difficult to determine, for we probably do not know all the functions of the organ. The immediate, most striking effect is diminution of the quantity of the urine. This, however, soon, if the patient recovers, returns to its normal quantity. How much of this diminution is due to the operation, and how much to other conditions as anesthetics, diet or the previous conditions of the patient, or the influence exercised at times on the adrenals, is difficult to determine. It may happen in advanced disease of the kidney, that from the extra work put upon the other, there will be a congested, even hypertrophied, condition of it, and the urine from this organ may contain large amounts of epithelial debris which may show as a distinct deposit. This does not necessarily mean that there is a disease of this kidney, and the old view that the disease may be, in a measure, judged by the deposit is, therefore, erroneous. Again, the presence of albumen is not a criterion as to healthy condition, as the urine from a diseased kidney may contain no albumen, while albumen may be present in a practically healthy kidney, because of toxic conditions of the other kidney, or of other organs.

It is not in the province of this paper to enter into a description of the different methods of examining into the functional activities of the kidney, but in the use of all those tests for functional capacity, cryoscopy, functional glycosuria, electrical conductivity, experimental polyuria, elimination from the kidney of colored substances, the pheno-sulph-thalein test, etc. Each seems to have a special indication and one cannot depend on any one test in all cases, for, in some cases, there may be serious trouble and yet enough of normal structure to make certain of the tests in this particular case negative.

We must remember before doing work that is liable to injure the functions of one, to be sure that its fellow is capable of carrying on the work, and, in removing it, that its function is insufficient or will be so.

The ureters are about 6 to 10 inches long and have a diameter commonly the "size of a goose quill." They are not of uniform diameter, however, so we find certain points most liable to the arrest of calculi as they pass down from the kidney. These points are located in three well marked and fairly constant places. One adjacent to the lower pole of the kidney at the outlet of the pelvis, one located where the ureter crosses the iliac vessels, and one at the lower ureteral orifice. We find calculi in the ureter much more frequently than was formerly believed, since the more perfected diagnosis by the X-ray and catheterization. A negative operation for stone in the kidney, if followed by careful examination, will often reveal one in one of the ureters.

Pilcher says the ureter is subject to the same diseases, both obstructive and inflammatory, as the urethra.

The occurrence of anomalies of development of the ureter are more frequent than usually believed and should always be kept in mind. He gives the ratio of two or three in 100 examinations as not unusual. This is very important; as, for instance, two ureters may lead to one kidney.

RENAL TUBERCULOSIS*

FREDERICK W. ROBBINS, A. M., M. D.
Detroit, Mich.

A symposium on renal surgery twenty years ago would have scarcely touched upon this, which today is the most interesting, if not the most important branch of the subject. At that time there was no specialty in medicine known as Urology, which practically had its origin in the impetus given to the study of urinary diseases, through the invention of the cystoscope and ureteral catheter.

Again at the autopsy table when tuberculosis of the kidney was present, it was so linked up with general tuberculosis and with that of its mate, that it was scarcely looked upon as a surgical disease.

Only last winter when one of our friends presented a number of tubercular kidneys before a medical society, another expressed dissent from the opinion that every unilateral tubercular kidney, except when contra-indicated, should be removed. Ever since then I have been especially interested in the study of my own cases, and the opinions of others as expressed in medical literature.

This literature I have carefully examined going back five years, and have found a very general agreement on the part of those sufficiently interested to write, as to the most important questions relating to this subject.

For instance, now, when tuberculosis exists in the bladder, we immediately ask ourselves: Are both kidneys involved? Some of us remember listening to Dr. Henage Gibbs not many years ago when, before the Detroit Academy of Medicine, he read a paper combatting the theory, then quite prevalent, that renal tuberculosis is often secondary to genital or bladder tuberculosis. We all agree with him now.

A great responsibility rests upon the physician first consulted on account of uncomfortable urinary symptoms. These may be due to some simple thing, as errors in diet, or they may be due to so grave a condition as renal tuberculosis. To make the diagnosis is not always easy, but upon it being made correctly and early will often depend the life of our patient.

There are a few points in diagnosis that should be emphasized, and perhaps the first is that renal tuberculosis is not a rare disease. Is it not true that even yet many of us make a diagnosis of and treat patients for cystitis? Is it not true that cystitis* per se is a rare disease? In my experience this is so. Pollakiuria, dysuria, pyuria, therefore cystitis is, if I mistake not, too often the train of thought. By these symptoms the urologist is brought only to the gateway of an interesting surgical problem.

Of course, no one would miss the light that a carefully taken history occasionally throws over truth, nor would he forget to examine the entire body for any condition that might have a bearing on the subject of his study.

Several writers mention a fact that has been noted by me many times; namely,

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

*Patient recently reported seventy bladder injections.

the frequency with which advanced tubercular lesions of the kidney may be present in fleshy, ruddy, healthy looking subjects.

One should suspect tuberculosis whenever a turbid urine acid in reaction is present for which no explanation is evident;

Whenever irritability of the bladder is present in absence of any history of urethritis;

Whenever there is a history of one or more attacks of haematuria coming on without any exciting cause; as, jolting over rough roads;

Whenever a chronic dull pain is complained of over the kidney.

After tuberculosis has been suspected the suspicion must be confirmed or shown not founded on fact if possible. In any case of suspected renal tuberculosis, a cystoscopic examination is imperatively demanded and even then one may possibly make an error. Gallavarden and Rebatter report a case in which there was no suggestion of tuberculosis but the syndrome complex of chronic nephritis. Autopsy showed that in connection with a diffuse nephritis, there was an old closed tubercular area. The possibility of a closed tuberculosis then seems proven. On the other hand, the presence of renal tuberculosis must not be positively diagnosed, because of finding a few groups of tubercle bacilli in a catheterized specimen of urine. Weichselbaum, Weigert, Kreenfeld and others, have shown that T. B. may be carried off through the uninfected kidney. While theoretically this is probably true, practically one would not diagnose renal tuberculosis, or even have the opportunity to do so, until either a renal hemorrhage has occurred or pyuria be present, and under such conditions finding T. B. in a specimen of urine drawn through the ureteral catheter would be determinative.

One does not always find T. B., even after a most careful examination. Fullerton, in British Medical Journal, reports finding T. B. in eleven out of twenty-four cases. I think one should find the germ in a larger proportion of cases, but when not found, the cystoscopic findings, as in my Hergerson case, are so characteristic that they may be depended on, or the disease being in its incipiency, there will be sufficient time to observe the effect of guinea-pig inoculations without danger to the patient from the delay.

When the bladder is badly involved, it may not be possible to catheterize the ureter on the diseased side (C. Ekehorn). In such case the findings in the urine from the other side may be quite as important to one having the possibility of an operation in mind, for the question of renal function in many cases will determine whether to do a nephrectomy or not.

Cystoscopy and ureteral catheterization has done away with the attempt often made in the past, to diagnose the condition of a kidney by palpation through an abdominal incision, before removing its mate. To try to make a diagnosis by such means is absolutely futile, and operation based on information thus gained would probably be actionable in a court of justice today.

It has been interesting to note in the many papers reviewed by me, that in making a diagnosis of renal tuberculosis, the accent has been placed on cystoscopy, and not ureteral catheterization. That is to say, in a large number of cases it is quite possible, with the cystoscope, to read from the ureteral mouth the condition of the kidney of that side. Mr. Harry Fenwick has made this clear. Tuberculin may, in the occasional case, be employed as a diagnostic measure, but always with the knowledge that the deep lymphatics as well as the lungs and kidneys may be the seat of infection. Wilhelm Karo of Berlin,

after pointing out by several illustrative cases the uncertainty of the opthalmo reaction, speaks of the value of Alt tuberculin, in that after its use, there will be pain in the diseased kidney. If pain is present in both kidneys, as a rule, an operation should be avoided. In my Case 2 pain was severe in right kidney but absent in the left.

The symptoms—tenderness, pyuria and haematuria are common in presence of renal tumor or stone. In such cases the X-ray should be employed but only by the expert and even then one should not be disappointed if the roentgenologist is not dogmatic in his opinion. A patient recently passed a stone a few days after a negative X-ray report. Again, well marked shadows may be seen in a tubercular kidney due to a very dense tubercular deposit (Symonds) or to phosphatic deposit in a dirty pelvis. All this only emphasizes the necessity of employing all means at our disposal in the attempt to make an accurate diagnosis.

A well marked tumor may be present, due to a tubercular kidney, but such a growth speaks rather against than for tuberculosis. Such tumor may prove to be an enlarged compensatory normal kidney.

The question of diagnosis, although of intense interest, must not push into the back-ground entirely those matters of greater interest to the patient, namely, prognosis and treatment.

Tuberculosis of the kidney is essentially a chronic disease but, as in tuberculosis of the lungs, there is a wide difference in the resisting power of individuals, or in the virulence of the infection, or both. Kroonfeld, 1908, reports 104 cases seen in 20 years where the process was very benign, and mentions 3 cases of women who have had several children subsequent to a diagnosis of renal tuberculosis.

Howard Kelly reports for the 18 years prior to 1907, that of his 62 cases the average duration of symptoms was 3½ years and its mate was still healthy, and yet, in other cases, after one year of symptoms, the other kidney and bladder had been involved.

I am quite sure that our lesser experience quite corresponds with that of Dr. Kelly as regards the chronicity of this affection, nor do I find any expression in the literature to the contrary. It seems to me that this observation has a very decided bearing upon, or relation to, the patient as physician and surgeon. Dr. Kelly has seen no spontaneous or medical cure, but many failures, and I am not sure but he is right when he says that there are many cases of pseudo cures reported. Nevertheless, Dr. Kelly would not be so apt as some others, to see the results of cases satisfactorily treated medically, but would see many of the failures, at least 62 of them in 18 years.

There seems no question, judging from reports as I find them, that nephrectomy is the treatment for unilateral renal tuberculosis, but, first, let us consider the few cases mentioned in substantiation of the other side of the question. There will ever be some patients who will not submit to the knife, and for such is there any hope? Roosing says that expectant treatment is bad, because old tubercular scars on kidney are not found postmortem. This is a very strong confirmation of Dr. Kelly's statement, but Birchner, in Muenchner, Med. Wochenschrift, reports two cases in which nephrectomy was indicated, advised and refused. Both cured by X-ray applied for 15 minutes every two weeks. He also speaks of relief given by X-ray treatment in tubercular cystitis. Pieliske, Berlin Klin. Wochenschrift reports a case satisfactorily treated by 25 injections of tuberculin, over period of four months. He was very careful to avoid febrile reaction. Karo of Berlin, in Medical Record,

1909, states that he is not an ultra radical in advising operation in all cases, and reports as follows:

CASE 1.—Girl, age 8; right renal intection, operation refused. Given 30 injections, beginning with .0025 mg. alt tuberculin, and increased dose to 10 mg. She gained 18 lbs. in 5 months.

CASE 2.—Nurse, age 23; tuberculosis right kidney; refused operation. Given 25 injections. Gained 25 lbs. and bladder symptoms disappeared. Urine still slightly turbid and contains few T. B.

CASE 3.—Child, 20 months; eneuresis, pyuria, T. B. in urine. Gave 10 injections tuberculin in ten weeks. Gained 8 pounds; eneuresis cured. Last time examined did not find T. B.

CASE 4. Young girl. Bi-lateral tuberculosis; six injections given. Irritation less and gained 8 pounds.

Belfield says that Tuberculin in very small doses, 1-1000 mg., has helped in some cases.

V. Blum, 1909, Vienna Polyclinic, says: "The chances of spontaneous recovery are very slight; there is no justification for internal, medical, climatic, specific or physical therapy. They only waste time and reduce the probability of success from the only treatment—nephrectomy."

While there is some hope of improvement from the administration of tuberculin or the X-ray, reports of such beneficial treatment are so few that they only emphasize more strongly the good results following nephrectomy.

Are the results of operation better now than they were ten or fifteen years ago? Undoubtedly yes, not because of better operative technique but because of greater dependance upon the cystoscope and tests of kidney function. Kelly says that of his 62 cases twenty were unilateral and all cured. Eighteen of his cases were complicated by tuberculosis in other parts of the body. He reports thirteen of these recovered after two years.

He states that involvement of the bladder is not a contraindication to nephrectomy, nor is tuberculosis in other parts of the body. Pousson reports fifty operated patients living after several years. Kummel thinks 80% of unilateral tuberculosis are cured by operation. He does not advise operation in bi-lateral cases. M. L. Harris says: "Do nephrectomy in unilateral cases whether the bladder be diseased or not." He thinks there are occasionally mild cases in which general and specific treatment may be tentatively tried, but if symptoms increase would not delay.

Kronlein reports 71 nephrectomies from 1890 to 1908; of these 53 are living; 14 died during first year. Some apparently hopeless cases were cured and tubercular foci in lungs, joints, genitals, etc., were benefited. Isreal lost nine in his first forty-seven cases and two in last fifty. This improvement is due to more careful study and selection of cases. The high operative mortality, 11% in 316 nephrectomies by Isreal, Nicolich, Zuckerkendell, Casper, Robin, etc., is largely due to non-determination of renal insufficiency.

Watson and Cunningham, in 292 cases since testing renal capacity, report 54% cured, 36% improved and an operative mortality of 8.8.% They state that the only hope of saving any considerable number of cases is through nephrectomy. By it one may expect to cure 25% to 30%, whereas by all other means not more than 4%.

Paul Thorndyke would operate early but even then thinks there is a place for hygienic treatment in a certain proportion of selected cases.

I would now present for your examination four pathological specimens with short histories of the patients from whom they were removed as bearing on this discussion:

CASE 1.—Miss B., age 27. Referred by Dr. E. L. Shurly, Jan. 22, 1904. A history of urinary

trouble for two years. Had been treated for cystitis for many months. Urine acid. Much pus present. T. B. not found. Dr. Shurley has treated her for cough. Has lost flesh during past few months. Cystoscopic examination reveals slight ulceration around right ureter but otherwise a normal bladder. Urine through left ureteral catheter slightly bloody, probably traumatic. No urine came through right catheter, which, on withdrawal, was found filled with pus cast four inches long. Physical examination reveals tumor in region of right kidney. Patient's weight, 97 lbs. Decided upon an immediate nephrectomy which was done without difficulty, although around upper pole and pelvis there was a considerable mass of hard infiltrated fat. Patient made a rapid recovery, urine immediately cleared. Weight increased to 118 lbs., and when I saw her a few months ago, she was well.

Case 2.—Oct. 1st, 1910; Mrs. N. R., age 41. Housewife; several children. About six years ago complained of bladder symptoms, but bladder examination with cystoscope was negative; after an operation on crevix she became well, so she says, until July, 1910; complains of pain on urination, also in right hip and down right thigh; up twice at nights to urinate and once in two hours during day. She is fleshy, weight 166 lbs., and countenance ruddy; urine acid; spec. grav. 1.016, alb. trace. Cystoscope revealed congested areas in bladder and what seemed to be a growth near right ureter. Her healthy appearance made me hope for a while that she had only an infected cystitis but on June 3rd, I discovered t. b. and asked her physician to give her tuberculin. Following this treatment, in which the dosage was evidently too strong, there was severe pain over right kidney but not over the left. The chill was very pronounced and the following fever high. Tuberculin injections were given once a week for several weeks; the dosage being much decreased and, together with this, local bladder treatment. Although there were the usual ups and downs, there was practically no change in her condition except a gradual one for the worse. In May, 1911, she urinated every hour at night and every two hours during the day. On May 23d, at St. Mary's Hospital, Dr. Edward L. Keyes, Jr., conducted a clinic and at my request examined this patient, also the two to be mentioned later, all these were cystoscoped after an intra spinal injection of tropa cocain suprarenin The immediate result of the injection was very satisfactory, but for two days both women suffered intense headaches and this one after going to her home thirty miles away was much depressed for a time.

Urine from the left kidney showed moderate number of red blood cells, a few leucocytes, an occasional granular cast together with a few bacteria. No tubercular bacilli were found. The urea content, 25 grammes per 1000 c. c. From right kidney the urine contained an occasional red cell, many pus cells, degenerated epithelium and tubercle bacilli. Urea content 2 grammes per 1000 c. c. Renal function as tested by phenol sulphon phthalein, showed about 45% effectiveness. June 10th, 1911, I performed right-sided nephrectomy. Gas anesthesia was administered by Dr. E. G. Martin, and the kidney removed without complication. Before dressings were applied patient was well awake showing no evidence of shock. Patient left the hospital on the 20th day with wound completely healed. Examination Sept. 18th, demonstrated a still thickened bladder, very sensitive to pressure. She has less pain than before operation but is far from well, and will receive injection tuberculin Alt. once a week.

Case 3.—Mrs. F. P., age 39. Was first seen at request of Dr. Geo. C. Hafford, May 22, 1911. She has three children, the youngest 2½ years old. Well until Oct., 1910, since which time there has been gradually increasing pain at end of urination. Must get up four or five times at night and urinate once in two hours during the day. Has passed at times a little blood. Weight 125 lbs. as against 152 lbs. three years ago. Looks anaemic. Right kidney easily palpable. Urine acid. Spec. Grav, 1.016, albumin ++. As result of cystoscopic examination, May 23, 1911. Left kidney urine contains many red blood cells, a few leucocytes; no casts; no t. b. Urea content grammes 18 per 1000 c. c. Right kidney, pus abundant. Many red blood cells. Tubercle bacilli present.

Urea content, grammes 5 per 1000 c. c. Phenol sulphon phthalein test showed functional activity low, 35% excreted or nearly the danger line. I removed the right kidney June 2. The operation was rather difficult, owing to a short pedicle. Patient had recovered from gas anesthesia before dressings were complete and placed in bed in good condition. She sat up on the the 13th and left for home two weeks later, with the sinus not yet closed. A letter received from her doctor, Sept. 25, says that the sinus is closing very slowly, but she is gaining in weight, two pounds the last week; her appetite is good, as

is her general appearance, and she has lost the bladder irritability.

Case 4.— First saw Hugo H., age 26, April 11, 1911, at the request of Dr. Orr of Flint. He is a machinist and has a good family history. Three years ago contracted syphilis but has no gonorrheal history. Three months ago and a few times thereafter passed blood. Complains of frequent and painful urination. Gets up five times at night. Appetite poor; has night sweats; lost ten pounds. Present weight 119. Temp. 100.5°; pulse 120. External genitals normal. Is pale as well as thin. Urine spec. grav. 1.020, acid, much pus and albumin present. Can feel a collar like thickening on vesicle side of prostate. Dr. T. B. Cooley found an almost pure culture of a staphylococcus aureus but no t. b. Nothing abnormal was detected in the lungs, but right kidney was sensitive to pressure. Dr. Cooley administered an auto vaccine without benefit. Examination by Dr. Keyes, May 23, revealed a bladder generally ulcerated and very dirty. Dr. Keyes succeeded in entering the left ureter. The urine from that side was quite normal. No. t. b. were found, but a moderate number of blood cells.

Urea content, grammes 15 to 1000 c. c. As the patient was very sick with no hope of recovery in the presence of a probably very bad right kidney, it was decided to risk a nephrectomy; this I did, June 2, removing under gas the right kidney, 5½ inches long by 2½ inches wide. The ureter was much thickened but no attempt to remove more than a few inches was made. Patient returned to bed as well as when he went on the table. The wound rapidly healed and he went to his home in New York the early part of July. As to his condition at present, I have not heard.

From my experience in these and a number of other cases operated and unoperated, as well as from deductions from a review of the literature on the subject, I would present for discussion the following conclusions:

A. A much larger portion of renal tubercular infections are unilateral than was believed ten years ago.

B. Bladder tuberculosis is secondary to renal tuberculosis.

C. An early diagnosis is of the highest importance.

D. In a few very mild cases the X-ray or weak solutions of Alt Tuberculin in connection with the best hygienic conditions may, tentatively and with some hope, be employed.

E. Nephrectomy is almost a sure cure in unilateral tuberculosis.

F. Nephrectomy is not necessarily contraindicated even in presence of tubercular disease in bladder, the other kidney, or parts of the body.

G. Spinal anesthesia, although beneficial in its immediate effect, may be followed by very unpleasant symptoms.

H. Gas anesthesia, as administered by Dr. E. G. Martin, is entirely sufficient for this operation and I believe that attention to this one detail will lower the operative mortality in renal surgery.

THE PUBLIC AND THE MEDICAL PROFESSION

James Ewing, New York, states that the Academy of Medicine, since its foundation in 1847, has had three aims: the unification of the regular profession, the elevation of its standard and the promotion of medical science. Yet the public do not understand the position of the profession and believe that it acts from self-interest. This is mainly because the lay mind is not able to grasp the intricacies of medical science. The public do not understand the necessity of high medical education if they are to trust their lives to the physician in times of serious disease. They do not assist the profession by aiding in obtaining legislation needed to prevent disease. The doors of practice are opened to uneducated practitioners. The physical conditions which surround the interests of medical science in this country are unpropitious. It is impossible for a true scientist to earn a salary that will enable him to live in comfort. The union of hospitals, laboratories, and medical teaching has not yet been obtained. Although the profession has yet much to learn about the cure of disease, it has been able to do much in its prevention.—*Medical Record*, December 16, 1911.

SURGERY OF DISPLACEMENTS OF THE KIDNEYS AND COLON*

H. W. LONGYEAR, M. D.
Detroit, Mich.

As the surgical procedure which I shall recommend for the treatment of floating kidney has for its basis a certain anatomic condition with which many may not be familiar, I will first briefly describe it.

The *nephrocolic ligament* is the appellation given by the writer to a structure which unites the kidney to the bowel, the same being a continuation of the filamentous framework forming the fatty capsule of the kidney, which, after encapsulating the kidney—like the cordage of a balloon—the filaments pass downward and, becoming parallel with each other below the lower pole of the kidney, are inserted into the posterior aspect of the large intestine, between the peritoneal attachments of the gut. When the aggregation of filaments which comprise the nephrocolic ligament are bunched together and so retained by operative technique, the structure has sufficient tensile strength to support the kidney and, at the same time, to act as a very efficient substitute for the deficient hepatocolic ligament, the weakness or total absence of which starts the chain of pathology which includes the displacement of the colon, kidney, duodenum and stomach.

The operation, which is termed *nephrocolopexy*, has for its object the utilization of this tissue to retain the kidney in its normal position, and, at the same time, to raise and support the cecal end of the large intestine. The latter object, the writer believes to be most necessary in cases of ptosis, as he believes the symptomatology resulting from the displaced colon, *which is always an accompaniment of a nephroptosis*, to be of even greater importance than that of the displaced kidney alone.

As the first step toward nephroptosis is made by the relaxation of the hepatocolic ligament and the consequent increased mobility and dropping of the ascending colon and cecum, so must the first step toward a surgical cure be either the restitution of this support or the creation of a substitute for it, which shall do its work in the prevention of the downward drag of the colon on kidney and duodenum. It seems, therefore, that the prime factor in the surgical therapeutics is fixation of the colon, and that fixation of the kidney is of secondary importance.

THE OPERATION OF NEPHROCOLOPEXY

PREPARATORY TREATMENT — In cases which are recovering from Dietl's crisis or extreme chronic irritability, the patient should be put to bed and treated by suitable methods, the operation being made only after the complete subsidence of all acute manifestations and the entire disappearance of all inflammatory perirenal exudate. Special care should be exercised in examination of the urine, as all evidence of acute nephritis, which frequently persists for some time after Dietl's crisis, must be absent. The alimentary

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

tract should be completely emptied the day previous to operation, preferably by a saline cathartic. For this purpose the author usually uses Seidlitz powders, giving a double powder every two hours, beginning before breakfast, and continuing their use until five or six satisfactory stools have resulted. By commencing the use of the cathartic thus early in the day the evacuation is complete before night, giving the bowels time to become quiescent before the time of operation the next morning, which is important. The diet during the day should be light—soft.

The field of operation is sterilized in the evening, and a pad wet with sublimate solution applied with a binder. The morning of the operation the patient receives a simple enema, and immediately before going to the operating room a hypodermic of strychnia sulphate gr. 1-40.

Anesthetic—Nitrous oxide gas, folfowed by sulphuric ether, unless otherwise indicated. Gastric lavage with normal salt solution is used at the conclusion of the operation.

Severe post-operative vomiting, which must always be a menace to the success of a recently fixed kidney, is practically a thing of the past in cases in which this routine is followed.

In several operations during the last six months, the writer has found nitrous oxide alone still more satisfactory and the ideal anesthetic when administered by an expert.

Before the adoption of the use of the kidney elevator, (devised by the writer) much time was usually consumed in placing the patient in a satisfactory position, owing to the unstable condition of the body of the patient, caused by the use of the inflated rubber bag and other devices.

The kidney elevator is composed of two parts: (1) a round-top dome of nickel-plated spun brass, having an open base and a round opening cut in the top, and (2) an ordinary ice cap. To prepare the appliance for use, the rubber portion of the ice cap is pushed through the hole in the top of the dome from within, filled about half full of warm water, and the stopper screwed on. The flange onto which the stopper is screwed, being larger than the hole in the dome, holds the water cushion well in place on the top of the elevator. By the use of this simple device, which may be used on any kind of a table, the patient may be placed in position without loss of time by raising the hips high, with the patient lying face downward, and sliding the elevator under, with the water cushion uppermost. As the weight of the patient is let down on the cushion, it being placed centrally under the abdomen, the abdominal contents are pushed upward and the kidney held in position. A pad or sand-bag placed against each thigh holds the patient in exactly the position desired, which is usually with the side to be operated on slightly the higher.

Before making the incision, the reposition of the kidney should be assured by examination, as a very loose kidney in a broad subject having a relaxed abdominal wall may not be pushed into place by the elevator, and may need manual direction into the fossa.

The seat of operation, having been previously sterilized, is simply washed with alcohol. The incision, about two and a half inches in length, is begun just over the lower margin of the twelfth rib, and at the outer margin of the quadratus lumborum muscle—which point is a little over two inches from the vertebral spine —and carried a little diagonally outward toward the iliac crest. Skin, fat, and superficial fascia are severed, when blunt dissection is used through the latismus

dorsi muscle to the transversalis fascia, which is grasped by two Kocher forceps and incised between; or the fascia may be entered also by blunt dissection by thrusting through the opening, the closed jaws of a pair of hemostatic forceps. The subperitoneal (not perirenal) fat appears. Retractors are inserted and the fat pushed downward with the finger, when Gerota's capsule (perirenal fascia) is seen at the upper angle of the wound, near the twelfth rib, as a pinkish-colored membrane, somewhat resembling peritoneum. This is grasped with two fine-toothed tissue forceps and incised between when the perirenal fat appears. (If incision has been made through the transversalis fascia too far downward, and not near the twelfth rib, the peritoneum, and not Gerota's capsule, will be opened at this stage of the operation.) The index finger is inserted through the opening in Gerota's capsule, and the lower pole of the kidney located—and it is important that the lower end of the kidney be made out definitely, as the nephrocolic ligament, if grasped and fixed at the side of the kidney, is secured in but a small part and will have little supporting strength. With the end of the finger against the lower pole of the kidney, acting as a guide, the long Kocher forceps are thrust deep in beside the finger and about an inch below the kidney, opened wide, transversely to the axis of the kidney, and the tissue below the finger grasped by gently closing the forceps. Traction indicates to the finger the success or failure to locate the ligament. If properly held by the instrument, the kidney may be pulled up forcibly against the finger by it, and the fasciculi of the ligament may be felt to pass from the forceps to the kidney. Several attempts may be made, in some cases, before the ligament is satisfactorily secured, but it is usually found at once. Occasionally the kidney lies low, or in such a position that the examining finger can not reach the lower pole, in which case two forceps may be used, and the kidney brought up by a "climbing" process, so that the ligament below the pole may be reached. When secured, the kidney is pulled up to the wound. This spreads out the fasciculi of the ligament in a fan-shaped manner, as the inner side of it is adherent to the peritoneum between the kidney and bowel. To gather together these separated faciculi into one mass of parallel fibers is the next step, which is accomplished by means of the forceps-hook. While the assistant holds the ligament gently taut, with the long Kocher forceps, the closed hook is passed, with the finger as a guide, into Gerota's capsule, anterior to the ligament and about an inch below the kidney, and pushed gently backward slightly beyond the lower pole of the kidney, the end being held upward, so that the hook lies parallel with the kidney. After it is placed in this manner, the end is turned toward the back of the patient, so as to cross the back of the ligament with the hook, and then drawn upward toward the wound. The finger, being removed at the same time from the anterior side of the ligament and placed on its posterior side—still within Gerota's capsule—guides the end of the hook up out of the capsule and forces it through the tissue clinging to it. Examination is then made, and if a good mass of tissue has been secured, which pulls strongly on the kidney and holds it firmly up to the wound, the hook is opened about an inch, which strips some of the ligament from the peritoneum and forms a loop through which the fascia and capsule are to be sutured. After opening the forceps once they are allowed to close, and are opened only when necessary in passing ligatures under and drawing the edges of the capsule through.

Some tough tissue is usually brought up on the tip of the hook, which is the part of Gerota's capsule that passes down with the ligament to its insertion in the bowel, and should be included with the ligament, as it materially strengthens it.

The next step is the suturing of the overlapped margins of Gerota's capsule under the loop of ligament. For this purpose a mattress stitch of cat-gut is used on each side, the first being passed twice through the free margin of the capsule on the abdominal side, the long ends brought through the loop of ligament under the hook with the curved ligature carrier, passed under the capsule on the vertebral side, and with the handled needle the separate ends passed through the capsule and tied about half an inch from the margin. A similar ligature is then made fast to the margin of the capsule on the vertebral side, the ends threaded through the eyes in the end of the hook, and the hook withdrawn, bringing the catgut through under the ligament with it, when it is passed through the outside of the capsule on the abdominal side, about half an inch fom the margin of the loop of ligament, and tied under the edge of the flap. The loop of ligament is still held by the long Kocher forceps, which are not removed till the suturing around the ligament is finished.

The opening in Gerota's capsule at each end of the projecting tissue of the ligament is closed with ligatures, after which a silver wire mattress suture is passed with a handled needle through the transversalis fascia from side to side, broadly, under the loop of ligament and fastened, thus bringing the margins of the fascia under and firmly against the tissue of the ligament.

The wire is made fast by twisting the ends, and a small perforated silver shot run over the ends down to the shoulder and crushed with strong forceps. The ends of the wire are cut flush with the shot, which leaves the suture in a condition free from any possibility of causing irritation to the tissues. No post-operative trouble is had with this buried suture made with the number 26 wire used, protected by the silver shot. Farther closure of the transversalis fascia is made with interrupted catgut sutures.

The long Kocher forceps are removed from the ligament, which is now covered over by the closure of the muscle and superficial fascia by interrupted sutures, care being taken here—as, in fact, during the entire operation—to leave no dead spaces or bleeding points.

The operation is finished by closure of the skin incision with a subcutaneous suture of cat-gut which is entirely buried. If the skin margins are not exactly coapted, they are brought together by narrow strips of aseptic adhesive plaster. The wound is dressed by dusting with aristol, covered with a small gauze pad, which is held and surrounded by adhesive plaster, and loosely with a large pad of cotton, reaching entirely across the width of the back, the latter being held by adhesive plaster and a loosely applied binder. The patient is then turned on the back, and a large abdominal pad applied.

This pad should be thickest in the middle and of sufficient size to fill the abdominal space below the navel, and yet not extend beyond so as to cause pressure on ilium or pubis. It must be worn constantly during convalescence, and held securely at all times by the adhesive plaster, and a binder in addition. In cases of severe post-operative vomiting, this pad is a valuable safeguard against the threatened tearing away of the newly sutured tissues by the violent muscular activity incident to the emesis; it acts further as a constant support to bowel and kidney during

the healing process, thus removing much of the strain on the sutured parts.

After Treatment—The patient remains quietly in bed for from seventeen to twenty days, this length of time being considered necessary to insure the firm union of the mixed tissues involved. The position for right nephrocolopexy may be dorsal or right lateral, but lying on the left side is strictly prohibited during convalescence. In the bilateral operation the dorsal position only should be allowed.

The diet is of a fluid character (not including milk) for three days, then light soft diet for seven days, and mixed diet afterwards. The bowels are moved by a low glycerine enema (glycerine ℥j, water ℥v) on the third day, or before if tympanites be troublesome. A low enema of normal saline solution is used, to overflow, on the evening or each day thereafter when a satisfactory movement has not been had during the day. The administration of petrolatum oil (℥ss), afternoon and bedtime, is begun on the fourth day and continued until the bowels become regulated without the use of the enema, when it may be gradually discontinued, as indicated. It is sometimes necessary to continue the use of the oil for some time after convalescence, or to use it from time to time as the colonic function demands.

A mild saline laxative is often necessary on the second or third day to clear up the after-effects of the anesthetic, when Husband's magnesia (℥ij), well stirred in a glass of water, will be found useful and easy in its action. The glycerine enema is frequently needed to start the movement, and may be given if the bowels do not act within six or seven hours.

The wound is dressed on the fourth or fifth day by removing dressings, washing with alcohol, and reapplying the same as before, if the condition of the wound is good. On the tenth day the dressings are all removed, except the large pad, which is allowed to remain several days longer as a protection to the wound from injury.

The majority of these patients—either from the effects of the long continued toxemia to which they have been subjected, or from constitutional causes—exhibit a tendency to the formation of uric acid and oxalate of lime in the urine, and demand treatment accordingly during convalescence. For this purpose nothing has been found that equals in effectiveness the use of acid. nitro-mur. dilut. mv in half a glass of water every three hours.

For several weeks after the operation some patients complain of discomfort in the region of the ascending colon, caused, no doubt, by the unusual strain on the nephrocolic ligament. This subsides in due time, and no harm ever eventuates from it.

Getting up and about should be slow, and exercise taken gradually, but special care need be observed only against any accident or overdoing that would cause sudden or severe strain.

The abdominal truss-band, (designed by the writer) is put on when the patient gets up, and is worn thereafter, when not in bed, until the accumulation of an intra-abdominal pad of fat makes its further use unnecessary. For a month after getting up the patient is directed to wear at night a large abdominal pad, applied with a binder.

The patient should be under observation for several months after operation, as the old bad habits of bowel, nerve, and muscle frequently persist to a certain extent, the symptoms not all disappearing at once. Improvement is often rapid, but in some cases the betterment comes gradually, and the patient must be told that this may be so, and that some period

of time must elapse before ultimate cure can be expected.

The most marked, often immediate betterment is noted in the improvement of the action of the bowels and rapid increase of nutrition. The author believes these improved conditions to be due to the fixation of the cecal end of the large intestine; as, by it, the cecum is assisted in the performance of its normal function of absorption and assimilation. The "churning" action, so necessary to the proper absorption of the fluid nutriment passed into it from the ileum, is thus made effective. The acute angulations of the bowel are also straightened out to a considerable degree, by the fixation, which favors the more normal evacuation of its contents.

The operation is non-mutilative, causes no shock, and is followed by very little pain.

DISCUSSION

Paul M. Pilcher, Brooklyn, N. Y.: The subject of surgery of the kidney is so extensive that it will be impossible to discuss more than a few of the most important points. The paper read by Dr. Robbins is especially important. Tuberculosis of the kidney is a disease which is more frequently overlooked, until it has reached an advanced stage, than almost any other affection of the urinary tract. Nearly all of the cases which come to us have been under treatment on an average for over a year, and then erroneously diagnosed as chronic cystitis. As long as there has been no hemorrhage, tuberculosis has not been suspected. This is one of the least important chemical signs of tuberculosis of the bladder. I should say that in only twenty-five per cent of the cases has hematuria occurred early in the disease. Tuberculosis of the bladder is evidenced by a chronic, persistent, uncontrollable pyuria with frequent painful urination. If you have a case of cystitis in a man or woman presenting no history of any previous infection; evidenced at first by frequency of urination and a moderate pyuria, later with increasing pain, and the ordinary treatment by bladder irrigations are not beneficial to the patient, the case is almost surely one of tuberculosis, not only of the bladder but of the kidney. In ninety-five per cent of our cases the disease has been primary in one kidney.

We are all agreed that when we have an unilateral renal tuberculosis and the other kidney is in good condition, the indication is for immediate removal of the affected kidney. If we have a bilateral renal tuberculosis without toxic absorption, we should hesitate to perform any operation, but rely on the use of tuberculin combined with X-ray and hygienic treatment. In this way patients may be carried along for fifteen or twenty years and lead a fairly comfortable life.

If we have a case of bilateral renal tuberculosis and the patient becomes septic, developing a high afternoon temperature, we have every reason to believe that an abscess has formed on one side. The indication in such a case is to operate on the affected kidney and either open and drain the abscess, or better still, to remove the kidney entirely. If there is a very moderate involvement of one kidney and a very advanced involvement of the other, an operation may be done with a fair hope of success.

As to the paper by Dr. Longyear, I wish to say that his work is as well known in the East as it is here, and we are all indebted to him for his operation for fixation of the kidney and colon. I believe that it is a very important advanced step in the treatment of these cases. Some cases will be cured by a simple nephropexy and in others you will have to fix the colon as well.

C. D. Brooks, Detroit: As to the general consideration of renal surgery by Dr. Hafford, I think we should always first consider a complete diagnosis before undertaking any renal surgery, except in an emergency case for large abscesses of the kidney, or where one would not be able to use the cystoscope or employ catheterization of the ureter and a cystoscope. We should always obtain urine from both kidneys by ureteral catheterization and an X-Ray examination should be made. By so doing many mistakes will be avoided and I think the sooner a correct diagnosis is made the better. And these examinations are best made by those skilled in this work. The question of tuberculosis of the kidney, as Dr. Pilcher has remarked, is one that demands an early recog-

nition in order to effect a cure, and if left alone, will invariably cause death. Cases of cystitis which do not respond to treatment after two or three weeks should be called tuberculosis of the kidney or bladder, until proven they are not. And we must remember also that often we are not able to find the tubercle bacilli in one examination, and often not until after a dozen examinations. I also believe we have many more cases of infection of the bladder from the kidney, than infection of the kidney from the bladder, and that the bladder tuberculosis will not be cured until the tubercular kidney is removed or is cured.

Dr. Martin: The papers show a wonderful advance in renal surgery; and I was especially interested in the paper of Dr. Hafford in which he referred to some of the anatomical features of the kidney, the presence sometimes of double ureters. I simply want to qualify his statement and say that forty per cent of the cases of double ureters are, according to the post mortem statistics. The doctor stated that renal tuberculosis is secondary to bladder tuberculosis. I cannot agree with the doctor in that respect. Renal tuberculosis is secondary only to pulmonary tuberculosis; bladder tuberculosis is always secondary to renal. In the majority of cases where we have a kidney tuberculosis there is always evidence of it at the ureter opening, and that can be determined by the cystoscope. The granulations are deposited around the ureteral openings. And another feature that is determined by the cystoscope is the inflammatory condition of the ureteral opening; quite different from the normal ureter. Now, in speaking of tuberculosis of the kidney, it is well to discriminate; by granular tuberculosis we have tubercular conditions of the kidney which are quite distinguishable from acute conditions. The conditions that are most commonly observed in the clinic are miliary tuberculosis, wherein you get the abscess formation, and the hemorrhage, and so on.

One gentleman referred to the catheterization as a means of making a diagnosis. I consider that absolutely out of the question, and dangerous. Catheterization of a supposed diseased kidney is not a good means of arriving at a diagnosis. It is dangerous to the patient. The best means that Dr. Robbins suggested when you have a kidney that is under suspicion is the injection of tuberculin, and if you get an enormous outflow of tubercle bacilli, why, your suspicions are confirmed, especially where you have in addition marked pain over one or both kidneys.

F. W. Robbins, Detroit, closing: I have but a few words to say in conclusion. First, I desire to express my regret that a discussion of this kind, of a paper of this sort, could not be before the medical instead of before the surgical section, because I certainly feel that the medical profession do not begin to appreciate what Dr. Pilcher so nicely said; that wherever we have a pyuria with no evident cause, the large proportion of those cases are tubercular, and if we can get hold of them in time, we will do as Dr. Kelley and others do, save forty or fifty per cent of our cases, whereas, now we only save at best from twenty to thirty per cent.

Second, I want to commend to you the experimentation along the line of injecting phenol sulphone phthalein to determine kidney function, one of the new things being worked out, and sometimes proving very delightful in its results.

Third, I want to say something in addition to what Dr. Longyear said in regard to the use of an anesthetic. In all my cases gas was given by Dr. Martin, nitrous-oxide gas with air, and in every one of those cases the patient went back to bed in just as comfortable condition as before the giving of it. They were awake and fully conscious of every thing, and I never had anything that appealed to me so strongly as a life-saver as this anesthetic, in severe cases, as given by Dr. Martin.

H. W. Longyear, Detroit: I want to repeat what Dr. Robbins said regarding the reading of papers treating on the subjects discussed in this symposium before the medical section instead of the surgical section, because it is the medical man that gets hold of these cases first, treating them frequently for a year or more, the patients often going the rounds of the medical men before reaching the surgeon. This is especially true of cases of nephroptosis. They hardly ever go to the surgeon until they have gone the rounds. The general practitioner treats them generally for intestinal toxemia, intestinal indigestion, the latter being the more common diagnostic expression. The patients take diastase, pancreatin, tonics and nerve sedatives, things of that kind and so it goes for a long time, chronic invalidism ensues, and at last they go to the surgeon. The result is that the colon, by its angulation, has become more or less obstructed and dilated and voluminous, fills the abdomen much more than it

has any right to do, and has scant room to functionate. Even after any of these operations for replacement functionation will frequently be crippled for some time before the normal is attained. Some of them may be so obstructed as to require the removal of a section of the enlarged colon. The lifting up of the cecum under the usual conditions of nephroptosis does a great deal towards straightening out these angulations, and results usually in establishing the normal colonic function. This matter of the dropping of the colon and kidney should be brought more and more to the general practitioner, and he be urged to early diagnose these cases. They do not always go into them thoroughly; if they did they would treat them for the cause of the difficulty, and not for the symptoms resulting from the ptosis.

SURGICAL SUGGESTIONS

American Journal of Surgery.

A breaking-down sarcoma of the ilium may simulate a gluteal aneurism.

Not infrequently subacute inflammations of the Fallopian tubes will be found to be of tuberculous origin.

A mild degree of shock causes an increase in leucocytes; severe shock paralyzes the leucoblastic function.

A pulsating tumor in the side may be an aneurism of the abdominal aorta, although palpation fails to disclose its connection with the aorta.

Before performing esophagotomy for foreign body, make a final examination (radiographic or otherwise) to determine that the object has not slipped into the stomach.

Persistent dyspareunia, with no other ascertainable cause, may often be found to lie in a chronic gonorrhea of Skene's ducts.

Some apparently inoperable carcinomata of the cervix will yield remarkably to repeated cauterization with the actual cautery and zinc chloride.

Any menstrual irregularity or abnormality in a woman who has hitherto been perfectly regular and normal in her menstrual periods, should always suggest the possibility of an ectopic pregnancy.

Injection into a fistula in ano of a staining solution or a colored paste makes it possible for the operator to assure himself that all branches of the tract have been explored.

It is worth while inaugurating the treatment of "idiopathic" pruritus ani by the administration of santonin or of enemata of quassia infusion—seat-worms may escape discovery on one or two examinations.

When vomiting and right iliac pain or tenderness are associated with a chill and a pyrexia of 105 degrees or 106 degrees, exclude pneumonia and malaria before operating for appendicitis. If the appendix is diseased, exclude mesenteric thrombosis before closing the wound.

If skiagraphs show the shadow of a calculus at the neck of the bladder when the patient is exposed lying flat with the organ empty, and in the same position when the pelvis is elevated and the bladder full, the stone is in the prostate (or prostatic urethra) or in a diverticulum behind the prostate.

Both ether and chloroform anesthesia have a hemolytic effect, which is followed by a compensatory polycythemia. It is followed also by 30 per cent increase in the leucocytes, which begins during anesthesia and lasts for about 24 hours. Leucocytosis is also induced by saline infusions and purgation.

LUES—PAST AND PRESENT*

N. DeHAAS, M. D.
Fremont, Mich.

Lues has been known, described, and quite successfully treated for many years. At times in the world's history it has been epidemic and at all times it, or its serious results, have represented a large proportion of the disease with which we have to contend.

The late Dr. Hyde claimed eighteen per cent of the world's population to be luetic, and, in an address before the Wayne County Medical Society last April, Dr. L. M. Maus, U. S. A. Surgeon, claimed forty to fifty per cent of abortions due to this cause. At any rate we all recognize the fact that it is a very prevalent disease and one that is, as a rule, amenable to treatment.

This being true, then why has this disease not been a popular one for discussion at such meetings as this we have tonight, instead of being shunned and ignored as it has been for years? Is it because of its immoral environment? Is it because we under-rate its seriousness? No, it is because "the last word had been spoken." We have had nothing new to offer from the year 1836, when Wallace recommended the addition of K.I., to the mercurial treatment, to the year 1905 when Schaudinn and Hoffman discovered the true cause.

To illustrate our position *in the past* with reference to this unfortunate class, let us take the case of the man who comes into your office or mine, with an initial lesion either labial, digital or in its *usual location;* say that it is a very typical sore, single, and with a marked induration and proper history as to time of incubation, etc.

We examine it carefully, look wise, of course, and then inconsistently say: "I don't know, this may be the forerunner of a very serious disease or it may be only a local affair, we will have to wait." In the meantime we either incise, cauterize, or dress with calomel, according to our particular methods, and wait until our patient is thoroughly saturated with the virus, as is evidenced by a skin eruption, sore throat, etc., then we begin to treat.

Under the influence of Hg. either internal, injections or inunctions, our patient will usually clear up, all symptoms disappear and a return to normal appears to be the condition.

Now comes the patient's danger; three out of five will stop treatment; they feel perfectly well and some will think "Doc needs the money" or, "I'll take it up again after awhile," or, to be more generous, "He has cured me but don't know it." They go on five, ten or fifteen years and develop some of the beyond hope sequelae, such as locomotor or paresis. The other two will continue treatment and ask you how long it will take to cure them. Now what have we had to offer, but—"You take treatment steadily for two years, interruptedly for another year, occasionally for another year or two and then—if any evidence appears, *renew your treatment.*"

*Read at the meeting of the Muskegon County Medical Society, August 4, 1911.

Thus, in all these years we have had no guide either chemical, clinical or biological on which we could give our patients anything but a problematical assurance.

In the year 1903 Metschinkoff and Roux found it possible to inoculate certain species of the higher apes with the virus of lues, and this fact aroused the sleeping interest in this disease to renewed efforts and in the year 1905 Schaudinn, working to confirm Seigal's claim of having discovered the cause of this disease, isolated the true cause, the Spirochaeta Pallida, which has since been confirmed by many observers and is now generally accepted.

Following this in 1906 came the most important work of all; the perfecting of a serum test, known as the Wassermann reaction, a reaction that is reliable, in competent hands, in practically every case. A positive Wassermann, as at present understood, indicates an existent luetic condition, more or less active and requiring treatment. That leprosy, yaws, and scarlet fever give, it is claimed, a positive Wassermann is of small consequence as the differential diagnosis in these conditions would be easy. *One* negative Wassermann following treatment is not sufficient, as a negative Wassermann may become positive, but a persistent negative covering a period of one and a half years without medication, in the present light on this subject may be considered a cure. As experience increases with this test, the above time may be greatly lengthened or shortened, but at least we have something *definite* on which to base our treatment, for as long as the patient possesses a negative Wassermann, he can rest at ease.

About eighteen months ago Dr. Paul Ehrlich completed a work upon which he had been engaged for some time, that of preparing a drug so powerful that one injection would completely destroy all invading organisms in the body, without seriously affecting the host, and for a time his experiments seemed to prove his hopes realized, for rabbits that he found susceptible to lues, on being inoculated with the virus, and later injected with Salvarsan were found to be completely sterilized. This complete sterilization also occurred with mice inoculated with the spirilla of relapsing fever, also in chicken spirillosis, two other diseases caused by protozoan spirilla, proving this drug to be a specific spirillocide.

Dr. Ehrlich then, probably profiting by the experience of Robert Koch, did not place this drug on the market for general use, but distributed twenty thousand tubes gratuitously among five hundred selected clinicians of the Old World, and some, later, in the United States, giving explicit instructions as to method, class of cases and contra-indications, with request for complete report whether favorable or otherwise. Then after several thousand cases had been treated under these restrictions, he placed the drug on the open market.

I will not bore you with an attempt to describe their results in detail, nor the different methods used for different conditions, for our journals have been filled with reports of these cases for some time and with which you are all familiar.

There has been the report from the enthusiastic follower of every new fad, who expects to see lues wiped from the face of the earth inside of the next five years, that of the more conservative observer who *does not* see quite so much sunshine; and last, but not least, that of the knocker who considers it his duty to reject everything that is new.

"As to Dr. Ehrlich's dream of Therapeia Sterilisans Magna, it is possible that in some of the early cases by removal of the initial lesion and the use of the combined method it may be realized, but the

present position of Dr. Ehrlich" as well as that of many clinicians using this drug extensively, is that, in the more advanced cases, it will become necessary to follow one of many different courses; viz,

1st. The triple intravenous injection, method of Weintrand.

2d. The triple injection plus Hg., method of Neisser.

3d. The combination method of Iversen.

4th. The injection every forty days as long as the Wassermann persists.

Just which one of the above methods will eventually find favor with the majority, only time will tell, but that it will be necessary to resort to more than one treatment in this class of cases is now freely admitted by all.

Dr. Ehrlich's aim to produce complete sterilization at one stroke was considered necessary, owing to his experience with Arsacetin, Arsenophenylglysin and Salvarsan in sleeping sickness and relapsing fever, that when given in doses insufficient to produce complete sterilization, it would produce instead, a strain of organisms resistant to subsequent injections, that this would be the result in lues was a natural conclusion, but recent experiments made by Margulies in Ehrlichs' institute have proven that Salvarsan does not produce resistant spirilla in lues, and this observation has been confirmed by recent clinical experience. This will probably lead to important changes in the future method of Salvarsan administration. It is claimed by some that this is due to the fact that the Spirochaeta Pallida are not blood propagating organisms as is the case in sleeping sickness and relapsing fever.

It has been my good fortune to have under observation a few of the early cases treated in this country as well as a very large number recently, through the courtesy of Dr. B. C. Corbus, of Chicago, in all stages, from that of the old cases that were simply Wassermann positive to those in the active secondaries, some whose reaction to the remedy was alarming, to those who suffered not the slightest inconvenience from either intravenous or intra-muscular methods. To say that the result in some of these cases is wonderful is placing it far too mildly, others did not react so well, and though there are cases reported without any improvement and some deaths, I have not, as yet, seen a case that did not show some improvement.

My own cases are too recent to make any report upon; none having any lesions perceptable to the naked eye, I will simply have to await the result of the Wassermann, or their subsequent clinical history.

In conclusion then, we may say modern research has given us the following aids:

1st. An early, easy, and positive diagnosis in the discovery of the Pale Spirochete.

2d. A serum test that is a reliable guide to the treatment.

3rd. In Ehrlich's Arseno-Benzol, to say the least, a very valuable aid to the treatment.

And now with the Wassermann test at our command, if nothing more, I believe we may hope, in the near future, to see a revision of that old saw, "Once luetic always so."

THE NEXT ANNUAL MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY WILL BE HELD AT MUSKEGON, JUNE 19-20, 1912

The Journal of the Michigan State Medical Society

Published under direction of the Council.

PUBLICATION COMMITTEE:

A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
W. J. DuBOIS, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek. (Ex-Officio)

EDITOR:

WILFRID HAUGHEY, Battle Creek.

EDITORIAL COLLABORATORS:

J. V. White, Detroit, 1st District.
F. E. Ruggles, Bay City, 10th District
V. A. Chapman, Muskegon, 11th District
E. H. Webster, Sault Ste. Marie, 12th District.
Reuben Peterson, Ann Arbor, 14th District.

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A. M., M. D., Editor, 24 West Main Street, Battle Creek, Michigan. The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

Subscription Price $2.00 per Year, in Advance.

FEBRUARY

EDITORIAL

EDITORIAL COLLABORATORS

DURING the past year a change has been inaugurated in the JOURNAL. The department of Progress of Medical Science has been allowed to lapse, and the members in charge have been classed as Editorial Collaborators, preparing occasional scientific editorials instead of abstracts as in the past.

The Council has endorsed this plan and each Councilor will, in future, nominate one man from his district to serve for one year.* The object of this arrangement is to get more men interested in the work of the JOURNAL, and to secure contributions to the Editorial pages from every District of the State.

*See minutes of Council meeting, page 130.

REVISION OF MATERIA MEDICA COURSES

THE Council on Pharmacy and Chemistry in response to a number of requests, has undertaken the compilation of a list of the admittedly more important drugs which might serve as a basis for instruction in medical schools and in the preparation of examination questions for license to practice.

A committee of the Council has consulted the teachers of materia medica and the examining boards of the United States, has referred to the leading pharmacopoeias and, in other ways, has collected evidence on which a tentative list of the more important medicaments has been prepared. Now physicians in general are requested (*J. A. M. A.* Dec. 9, 1911, p. 1930) to indicate the drugs which they consider most important. The list, when finally revised, is to be submitted to teachers of materia medica and to medical examining boards so that instruction and examination in this branch may be based on the drugs in this list. From *The Journal A. M. A.*, we also learn that it is the object of the Council ultimately to publish a critical treatise on a limited list of drugs —a book which teachers as well as examiners may use.

Physicians in general will agree that courses in materia medica as above outlined will possess decided advantages over those which have been in vogue in the past. A critical work on drugs, in place of the mass of uncritical material presented by the dispensatories, will be welcomed by all practitioners.—W. A. P.

ETHICS

II. AUGEAN STABLES AND ADVERTISING

WITH the thousands of pharmaceutical preparations we have; with the literally hundreds of manufacturing houses, large and small; with the untold opportuni-

ties of fraud and deception, is it any wonder that many preparations are not entirely ethical? The task of sorting out and eliminating those not suitable for intelligent use is more than the ordinary man is equal to. This was recognized by the *Jour. A. M. A.*, editorially, April 21, 1900, also by the Michigan State Medical Society. (see JOUR. M. S. M. S., July, 1904) The idea of a central clearing house—later the Council on Pharmacy and Chemistry —was finally evolved.

The task was great—the interests opposed were powerful. It was soon evident that to accomplish anything, some standard must be adopted, and those preparations not complying with that standard rejected. Possibly some preparations deserving of our support will thus be rejected, but is it not better to reject a few good things than to accept a host of frauds? Is it not more honest, more ethical, for physicians to decline to use an occasional useful pharmaceutical that they may be assured of not being deceived in many which they have no personal way of knowing are not frauds? Is it not better for a medical journal to reject the advertising of some excellent preparations rather than, in avoiding such a coincidence, to accept many which later prove fraudulent? Is it not better to err on the safe side?

By the action of the Council* at its January meeting the JOURNAL has cleaned house. We were carrying some advertising not approved by the Council on Pharmacy and Chemistry, and some disapproved. There were old contracts which no one seemed willing to assume the responsibility of canceling without authority.

We have for a number of months declined any advertising not strictly conforming to the standard of the Council—refusing about $700.00 worth within four months. We have also, during the past summer, cancelled two contracts not conforming, which were worth $150.00 per year. Since the action of the Council, Jan. 11, we have cancelled $350.00 worth of contracts.

It is an expensive matter to clean "Augean Stables," but how great the satisfaction! We do not need to apologize now for any single advertisement appearing in our JOURNAL—to the best knowledge of the Publication Committee and the Editor, all are clean.

It takes no particular courage for the man protected on all sides to call "thief," but how about the man who is vulnerable every way he turns? We have constantly refused to be limited in our pages, editorially or other, by the fact that our advertising pages were not all that we could wish. (See editorial, August, 1911, JOUR. M. S. M. S., page 389).

Speaking of advertising declined and canceled because of its ethical standard brings up another point about advertising, which is equally important. The JOURNAL of the Michigan State Medical Society belongs wholly to the society, and through the society to each individual member. The Council, the Publication Committee and the Editor have no more interest in the JOURNAL or its welfare than should each individual member, except that the responsibility of handling and managing it has been delegated to those particular members. Each member owns just as much of the JOURNAL as any other.

Each member could materially aid the few to whom the work is delegated, to make the JOURNAL a success financially, scientifically and ethically.

There are 2182 members of our society. All these members are physicians practicing medicine. All of them have to buy medical and surgical supplies—some a small amount and some a great amount.

*See page 131.

If each member would buy a portion of his supplies each year from some advertiser in our JOURNAL and let that advertiser know the reason why, the financial success of the JOURNAL would be secure. If one-fifth of our members would make an earnest effort to convince those with whom they deal that it would pay to advertise with us, the advertising pages of the JOURNAL would double and treble.

This question of advertising is one of reciprocity—one of ethics, if you will. Drug and surgical supply houses live and make their profit off of the practicing physicians—off of us. They all spend a portion of each year's income in publicity —in advertising. This fact will, we believe, be granted by all. Then why should they not put a small part of their publicity fund where it will benefit the very men from whom they make their profits? It is equally important and ethical for our members to give a part at least of their patronage to our advertisers.

To return to our stables—they are clean now. We shall endeavor to keep them clean, but ask aid of each and every member. If you should see something in our advertising pages which you know should not be there let us know. If you are dealing with firms which should advertise with us, let them know.

IN MEMORIAM

Dr. Johann Flintermann, an honorary member of the Michigan State Medical Society and for over forty years a practitioner of Detroit, died at Harper Hospital, January 15, of acute intestinal obstruction. Dr. Flintermann was born in Amsterdam in 1840, was educated at the Gymnasium of Lingen, and University of Goettingen from which he graduated in Medicine in 1864. He spent two years in post-graduate work in the University of Berlin, married Miss Dorette Schaeffer of Goettingen in 1867, and came to Detroit. He has been prominent in his profession, having been a member formerly of the Board of Health, one time President of the Detroit Medical and Library Association, a member of the Detroit Academy of Medicine, president at the time of his death of the Detroit Society of Neurology and Psychiatry, and a member of the Wayne County Medical Society. He leaves a wife and five children.

Frank W. Graham, M. D. St. Louis College of Physicians and Surgeons, 1883, Director of the White Cloud Hospital and Sanatorium, Ludington, Michigan, for years; Mayor of Ludington, died suddenly in a store in Ludington, November 6, from Cerebral Hemorrhage, aged 55.

William A. Burdick, M. D., Cincinnati College of Medicine and Surgery, 1885, formerly a member of the Kalamazoo Academy of Mediine and Michigan State Medical Societies, died at his home in Galesburg, November 15, from Chronic Nephritis, aged 78.

Dr. G. H. Fuerbringer, a member of the Saginaw County and Michigan State Medical Societies, died at his home in Saginaw, November 11, of pneumonia. Dr. Fuerbringer was born in Frankenmuth, in 1854.

Edward R. Close, (years of practice, 1900) formerly a member of the Antrim County and Michigan State Medical Societies, died at his home in Bellaire, July 8, from Chronic Nephritis, aged 77.

Dr. Chas. M. Steele, formerly of Battle Creek and a member of the Michigan State Medical Society, died in Reno, Nev., January 6, following an operation.

MINUTES OF MEETING OF COUNCIL, MICHIGAN STATE MEDICAL SOCIETY

January 11, 1912.

The annual meeting of the Council of the Michigan State Medical Society was called to order by Chairman Dodge at 10:30 a. m., Thursday, January 11, 1912, in the Industrial Association rooms, Battle Creek, Mich.

Present: Chairman Dodge, Councilors Biddle, Bulson, Rockwell, Haughey, Hume, Southworth, DuBois, Seeley, McMullen, Baker, Witter, President D. E. Welsh, Secretary-Editor Wilfrid Haughey, and Treasurer G. F. Inch.

The minutes of the previous meeting were read and approved.

The secretary read the following report from the special committee appointed to draft resolutions of appreciation to Dr. C. B. Burr, also the following letter which the secretary was instructed to write to Dr. R. H. Spencer, and the replies from Drs. Burr and Spencer acknowledging their receipt:

"The committee of the Council, appointed to draft resolutions expressing the appreciation of the Council to Dr. C. B. Burr for his manifold services to the Council and the Michigan State Medical Society, respectfully offers the following:

"WHEREAS, with the expiration of his term of office as president of the Michigan State Medical Society the official relation of Dr. C. B. Burr with the Council has terminated; be it

"RESOLVED, that the sincerest appreciation of the Council be and is hereby expressed to Dr. C. B. Burr, for his long continued and faithful services in the interest of the Michigan State Medical Society, both as a member of the Council, its presiding officer, and as president of the society;

"RESOLVED, that the Council with gratitude record his devotedness to the welfare of the society, his unfailing courtesy in his deliberations as its presiding officer, his thoughtfulness of and sympathy with the views of others;

"RESOLVED, that the Council extend its best wishes for his future health, happiness and success, and its earnest prayer that the society may enjoy for many years to come his wise counsel, the fruit of his ripened judgment;

"RESOLVED, that these resolutions be spread upon the minutes of the Council, that a copy be recorded in the Journal of the Michigan State Medical Society and that a copy be furnished Dr. Burr."

A. H. Rockwell,
A. M. Hume,
A. P. Biddle.

Battle Creek, Mich., Oct. 7, 1911.

Dr. Ralph H. Spencer,
Grand Rapids, Mich.

Dear Doctor:

At the last session of the Council held in Detroit, during the recent meeting of the Michigan State Medical Society, the following resolution was offered by Councilor A. P. Biddle, seconded by Councilor A. H. Rockwell, and carried unanimously:

RESOLVED, that the secretary be instructed to extend to our retiring Councilor, Dr. Spencer, our appreciation of what he has done for us and for the state society during the last six years, while he was a member of the Council, and our regret that he has found it necessary to leave the Council, and at the same time our good will for his success in the future.

Whereupon the Chair instructed the secretary to carry out the provisions of this resolution. A pleasant duty. Would that I were better fitted to discharge it.

First of all, dear Doctor, we want you to believe that the resolution quoted above comes from the hearts of the individual Councilors. The six years of your service with us have been fruitful years for the Michigan State Medical Society and its Council. Many trying situations have been met and conquered. Much of anxiety has come into our deliberations where your cool and well-thought-out opinions have done their share to lift the veil and show the proper course beyond. Serenity and quiet, too, have dwelt with us, then you in common with the others have relaxed; but never has levity and frivolity been introduced into your councilor work.

We shall miss you, Doctor. Although the chair so long occupied by you is now filled by one in whom we have perfect confidence and implicit trust, still your personality, with which we have become so familiar, is removed and while we shall feel the loss in Council deliberations we look forward with pleasure to many happy reunions at our annual state society gatherings. Anticipation, like hope, springs eternal in the human breast.

We are therefore minded of the old German couplet:

"Wenn Menschen auseinander gehen,
Dann sagen sie auf Wiedersehen,
Auf Wiedersehen."

W. H. HAUGHEY,
Secretary of Council,
Michigan State Medical Society.

Moved by Councilor Biddle that the resolutions to Dr. Burr be adopted. Supported and carried.

The secretary-editor read a telegram received from Councilor Ennis stating that he would be unable to attend the meeting as no trains were crossing the straits.

The secretary reported that Councilor Kay came to Battle Creek on Wednesday under the impression that that was the day of the meeting, and that he would be unable to come again today.

The report of the secretary-editor was read by Dr. Wilfrid Haughey.

So much of the report as related to finance was referred to the finance committee.

So much as related to county societies was referred to the committee on county societies.

So much as related to publication and advertising was referred to the publication committee.

The report of the treasurer was read by Dr. Geo. F. Inch.

Report was referred to the committee on finance.

The report of chairman of Medico-Legal committee, Dr. F. B. Tibbals, Detroit, was read by the secretary-editor.

Report was referred to the finance committee.

A recess was declared for lunch and to allow the committees to formulate their reports.

After recess the Council was called to order by Chairman Dodge.

The committee on finance, Councilor McMullen, Chairman, made the following report:

The finance committee beg to report that they have examined the books of the secretary and treasurer and find everything correct.

We would like to hear something from the doctors from Kalamazoo, regarding the status of the bonds at the present time. Sometime ago these bonds were ordered to be sold at par but it seems that they have not been disposed of because of lack of time.

We find that there is on hand at the present time a balance of about Twenty-seven Hundred Dollars and the committee feel that Fifteen Hundred Dollars might be invested in another bond and we do so recommend.

Councilor Rockwell reported that he had a consultation with the cashier of the bank handling these bonds, that he considered the bonds gilt edge, the company was in a flourishing condition and had already retired about $10,000 of the $40,000 issue; he thought that with a little more time they would be able to find a buyer for them at par. It had been suggested that they be sold through a broker but in that way it would be necessary to sell them at a sacrifice.

Moved by Councilor DuBois that the treasurer be instructed to dispose of these bonds within three months time, the loss on the transaction not to exceed One Hundred Dollars. Vice-Chairman Bulson was called to the Chair.

Councilor Baker supported the motion and suggested that the secretary of the company be consulted as better terms might be made with the company itself than with some broker.

The motion was carried.

Chairman Dodge returned and resumed the Chair.

After discussion Councilor Rockwell moved to reconsider the motion ordering the treasurer to dispose of the bonds.

Carried.

Moved by Councilor Rockwell that the treasurer be instructed to sell the bonds at par and invest the proceeds in savings account until further instructions from the Council. Supported by Councilor Bulson.

A standing vote was taken which resulted as follows:

Yes, 6.

No, 2.

The motion was declared carried.

Moved by Councilor Biddle that $1,500 surplus be invested in bonds to be approved by the treasurer, chairman of the Council and finance committee of the Council.

Supported by Councilor Rockwell and carried.

The publication committee, Councilor Biddle, chairman, reported as follows:

The members of your committee approve of the recommendation of the secretary-editor that the department on Progress of Medical Science in the JOURNAL be discontinued.

We believe it would be for the best interests of the society that as many members as possible throughout the state contribute to the editorial columns of the JOURNAL, and therefore, recommend that the editor select as collaborators, a member from each Councilor District on the recommendation of the Councilor of the District, to serve for a term of one year.

We are strongly of the opinion that it is essential that the society conform strictly to the rules of the Council on Pharmacy and Chemistry of the A. M. A., regarding advertising appearing in the Journal. As, however, there are some matters which the association does not pass upon, we recommend that all questionable local advertising be referred to the county medical society to pass upon.

We believe that the printing of the discussion of papers has caused more misunderstanding than anything else connected with the Journal and therefore recommend that the printing of discussions be abolished.

We feel that on account of the number of additions that have recently been made to the Constitution and By-Laws, a new edition should be printed, be published in the Journal and five hundred copies held for distribution among the members.

We do not approve of publishing a complete list of the members of the society, but recommend that only the names of those in arrears be printed, as directed by the House of Delegates.

We do not approve of accepting advertising contracts with a medical book publishing company to be paid in books.

We believe that in spite of the cost, the members contributing to the Journal desire the one hundred reprints free, and recommend that the plan be continued.

In regard to associating ourselves with other state societies in forming an advertising bureau, we recommend that the secretary-editor be authorized to enter into such an arrangement, providing the cost thereof shall not exceed two hundred dollars a year, unless the contracts shall bring in a greater amount.

In regard to whether we shall have the Journal printed in the city of the editor or by the Journal of the A. M. A. we authorize the secretary-editor to correspond more widely with the publishing houses in his city and also with the A. M. A., and to give the contract to that one which, in his judgment, everything being considered, is the best for the society.

All of which is respectfully submitted.

Andrew P. Biddle, *Chairman.*
A. M. Hume,
W. J. DuBois.

Moved by Councilor Southworth that the report be accepted and the recommendations adopted.

Carried.

The committee on county societies, Councilor Haughey, Chairman, submitted the following report:

Your committee on county societies expresses gratification that in 1911 we had the largest membership that we have had in any year, as reported by the state secretary.

The committee endorses the action of the state secretary with reference to the members in Barry county that are not receiving their Journals, and we recommend that the Councilor of that district do all he can to convince the members of that society of the positiveness of the defense feature as an integral part of the work of the state society and that all members of the state society must and do carry this feature.

We also recommend that the state secretary be authorized to meet the Barry county society and that the Councilor of that District join him at that meeting, and any other adjoining Councilor be invited, if needed, in an effort to make clearer the matter which seems to be misunderstood.

Your committee recommends that the Council recommend to the House of Delegates that members be only carried thirty days from January 1st, at which time all dues to the state society must be paid or members dropped from the rolls.

Your committee recommends that the Council pass a resolution requiring county secretaries to use the blanks furnished by the state secretary in making their reports to him.

Your committee recommends that the matter of lectures by the A. M. A. Council of Public Health and Hygiene be carefully considered by the Council.

Your committee recommends that the Council consider the matter of redistricting the state.

After discussion the committee on county societies withdrew the recommendation regarding the thirty-day limit for payment of dues.

Moved by Councilor Biddle that the report be accepted and the recommendations adopted. Carried.

Moved by Councilor Baker that we recommend to the House of Delegates that with the consent of the two Councilors concerned, a county may be transferred from one district to another, in order to facilitate attendance at county meetings, providing a majority of the members of the county society make the request.

Supported by Councilor Rockwell. Carried.

Councilor Witter presented a communication

from the Alpena County Medical Society asking that the JOURNAL be furnished to Dr. Arthur Wilkinson free of charge.

Moved by Councilor Southworth that the secretary be instructed to place Dr. Wilkinson's name on the mailing list and send the JOURNAL to him. Supported by Councilor Hume. Carried.

Councilor Witter read the following resolution which he had been requested by the Emmet County Medical Society to present to the Council:

"Resolved, That insasmuch as those in authority did not consult the wishes of the Emmet County Medical Society delegate to the annual meeting before making us into a new district and appointing a Councilor, the Emmet County Medical Society does not acquiesce in the finding and are not bound by their arbitrary methods.

G. W. NIHART, *Secretary.*
Emmet County Medical Society."

Moved by Councilor Hume that the resolution from Emmet County Medical Society be laid upon the table.

Supported by Councilor Seeley and carried.

Moved by Councilor DuBois that the secretary of the state society be placed under One Thousand Dollars bond.

Supported by Councilor Haughey and carried.

Moved by Councilor Baker that the secretary-editor be requested to publish in the JOURNAL between now and June such portions of the report of the Medico-Legal committee as seems advisable, for the information of members. Carried.

Chairman Dodge suggested that the reports of all committees be published in the JOURNAL before June meeting, if possible.

Moved by Councilor DuBois that we proceed by informal ballot to the election of secretary-editor.

Moved by Councilor Hume that the election of secretary-editor be passed over.

Councilor Haughey supported the motion of Councilor Hume.

Councilor Rockwell supported the motion of Councilor DuBois.

Chair ruled that the motion of Councilor Hume was in order and upon being put to vote it was lost.

The motion of Councilor DuBois was carried.

Chair appointed Councilors Biddle and Hume to act as tellers.

After ballots were cast the tellers reported as follows:

Whole number of votes cast, 12.

For Dr. Wilfrid Haughey, 7.

For Dr. F. C. Warnshuis, 5.

Moved by Councilor Hume that the vote be made formal.

Supported by Councilor DuBois and carried.

Chair declared Dr. Wilfrid Haughey elected secretary-editor for the ensuing year.

Council now proceeded to elect a treasurer by ballot.

Councilor Rockwell stated that he had been requested to announce that Dr. Inch would not be a candidate for re-election.

The names of Drs. N. H. Williams, Jackson, and R. E. Balch, Kalamazoo, were suggested as possible candidates.

Councilor Bulson stated that he did not believe Dr. Williams would care to accept.

After the ballots were cast the tellers announced the result as follows:

Whole number of votes cast, 12.

For Dr. R. E. Balch, 12.

Chair declared Dr. Balch elected treasurer for the ensuing year.

Moved by Councilor DuBois that the next January meeting of the Council be held in Detroit. Carried.

Moved by Councilor Biddle that Dr. F. B. Tibbals be re-elected chairman of the Medico-Legal committee for the ensuing year. Supported by several and carried.

Moved by Councilor Biddle that Dr. Flintermann be reelected member of the Medico-Legal committee. Carried.

The secretary cast the ballot of all present for Drs. Tibbals and Flintermann and they were declared elected.

Moved by Councilor Biddle that the salary of the chairman of the Medico-Legal committee be the same as in previous years, $250.00.

Carried.

Moved by Councilor Southworth that the annual meeting of the state society be held the last Wednesday and Thursday in June, the 26th and 27th.

Moved by Councilor Seeley that the meeting be held the middle of June.

After discussion Councilor Seeley withdrew his motion and supported the one by Councilor Southworth, which was carried.*

Moved by Councilor Bulson that the Council adjourn. Carried.

W. H. HAUGHEY, *Secretary.*

---

*Since the above action it has been found that June 27 is the date of the University of Michigan Diamond Jubilee and Commencement. A postal card vote selected June 19-20.

Secretary's Financial Report for Year 1912

Resources* on hand January 1, 1911:	
Bonds	$2000.00
Savings deposit at interest*	1428.50
Cash on hand	608.90
	$4037.40
Receipts:	
Cash on hand January 1, 1911	$ 608.90
Received from dues	4269.65
Received from advertising	2122.59
Received for defense fund	2156.78
Received for reprints	156.00
Received from misc. sources	18.38
Overpaid by County Secretaries	5.00
	$9337.30
Disbursements:	
Paid Treasurer for defense fund	$2156.78
Refunded to County Secretaries	5.00
For Journal expenses	4219.65
For State Society expenses	1335.93
For reprints	350.81
For Addressograph	186.22
Bal. on hand January 1, 1912	1082.91
	$9337.30
Resources January 1, 1912:	
(Exclusive of interest collected by Treasurer).	
Bonds	$2000.00
Savings deposit at interest	1428.50
Cash on hand	1082.91
	$4511.41
Resources January 1, 1912	4037.40
Profit during year	$474.01

Liabilities:

For memorial in Wayne County Medical Society Bldg., $100.00

Credits:

Advertising Bills Receivable	$421.96

Exhibit 1—Journal Expenses

Printing twelve numbers	$2758.59	
Cuts and illustrations	101.11	$2859.70
Addressing, wrapping and mailing		100.50
Upkeep of mailing list		16.49
Wrappers, one year's supply		44.00
Stenographer, one-half total		204.00
Postage, one-half total		72.59
Postage, second class (pound rate)		108.27
Postage, Battle Creek and Foreign mailing		13.16
Express and Telegraph, one-half total		7.34
Salary Editor		300.00
Advertising commission		422.47
Office Supplies, one-half total		5.95
Printing, stationery, one-half total		65.18
		$4219.65

Exhibit 2—State Society Expenses

Burr resolutions	$15.00
Registration annual meeting	5.00
Program annual meeting	60.25
Reporting discussion, etc	166.25
Honorarium Secretary Council	50.00
Honorarium Stenographer Council	50.00
Councilors' expenses	76.07
Annual Meeting Council	30.25
Treasurer's bond	5.00
Remington typewriter	75.00
Stenographer, one-half total	204.00
Postage, one-half total	72.58
Express and telegraph, one-half total	7.34
Salary Secretary	300.00
Printing and stationery, one-half total	65.17
Office supplies, one-half total	5.95
Secretary's traveling expenses	148.07
	$1335.93

Exhibit 3—Reprint Expenses

Printing reprints	$323.78	
Express on reprints	27.03	$350.81
Receipts for reprints	$156.00	
Cost for reprints to Society	194.81	
Total cost		$350.81

Exhibit 4—Addressograph Cost

Machine	$77.00	
2413 complete addresses	72.39	
Twenty-seven drawers	13.50	
88 M-1 tabs	.44	
Listing attachment	15.00	
Counting attachment	5.00	
Special gauge	2.50	
Freight and cartage	2.22	188.05
By discount for cash		1.83
		$186.22

*$28.50 accrued interest in Kalamazoo National Bank has been added to the amount reported last year, $4008.90. (See Nov. 1911, Journal).

Exhibit 5—State Society Receipts and Expenditures for 1911

(Exclusive of the Defense Fund and interest)

Receipts:		
From dues		$4269.65
From advertising		2122.59
From reprints		156.00
From miscellaneous sources		18.38
		$6566.62
Disbursements:		
For Journal (Exhibit 1)		4219.65
For Society (Exhibit 2)		1335.93
For Reprints (Exhibit 3)		350.81
For Addressograph (Exhibit 4)		186.22
Total Expenditures		$6092.61
Profit for year		474.01
		$6566.62

Exhibit 6—Total Profit for Year including Investment

Profit (Exhibit 5)		$474.01
Addressograph (Exhibit 4)		186.22
Typewriter:		
By Advertising	$25.00	
By Cash (Exhibit 2)	75.00	100.00
Interest (Treasurer's Report)		201.66
		$961.89

Exhibit 7—Treasurer's Cash

Cash on hand January 1, 1911		$608.90
Receipts (Exhibit 5)		6566.62
Interest on Bonds	100.00	
Interest at Kalamazoo B'k.	70.91	
Interest at B. C. Bank	30.75	201.66
		$7377.18
Expenditures:		
Exhibit 5, Journal and Society		$6092.61
Cash on hand Jan. 1, '12	1082.91	
Interest	201.66	1284.57
		$7377.18

Exhibit 8.

Resources:	
Bonds, Edwards & Chamberlain	$2000.00
Savings Acct. Kal. Nat. Bank	1703.95
Savings Acct. Old Nat. Bank, B. C.	530.75
Commercial Cash Acct., Kal. Nat. Bank	478.37
	$4713.07
Resources Jan. 1, 1911	$4037.40
Net profit for year 1911	675.67
	$4713.07

REPORT OF MEDICO-LEGAL COMMITTEE.

Detroit, Mich., Jan. 11, 1912.

The Council,

Michigan State Medical Society.

The Medico-Legal committee begs to report as follows:

Of the 11 cases handled during 1910, 3 have been heard from during 1911. Of these 1 has been tried and lost and is being appealed, 1 was carried to the point of trial and dropped, and 1 may or may not reach trial, suit having been started.

During 1911, 25 cases (involving 28 men) have been reported. Below is a detailed account of these:

1. Wayne County—Threat only.
2. Wayne County—Unrecognized fracture of head of humerus; small sum demanded in payment of hospital and surgeon's bill and paid by Insurance Co.
3. Berrien County—Dislocated shoulder; suit started.
4. Oceana County—Fracture of radius; tried and dismissed.
5. Berrien County—Colles fracture; suit not yet started.
6. Berrien County—Same case as above, involving assistant.
7. Delta County—Threat for case 10 years old, child born with fracture.
8. Wayne County—Threat only; accidental burn of conjunctiva.
9. Saginaw County—Fracture of humerus defended by Insurance Co; verdict of $1,500. In appeal.
10. Wayne County—Suit started but declaration not filed, post operative hernia.
11. Wayne County—Alleged bad result following vaccine therapy; suit started.
12. Emmet County—Alleged X-ray burn; suit started.
13. Wayne County—Threatened as off-set to bill for $5, for dislocated wrist. Advised to postpone collection until after two years.
14. Ionia County—Fracture case; suit started.
15. Muskegon County—Fractured knee; suit not yet started.
16. Wayne County—Colles fracture; threatened by attorney.
17. Kent County—Colles fracture; threat only.
18. Tuscola County—Alleged improper treatment of conjunctivitis; threat from attorney, case probably outlawed.

19. Houghton County—Three members sued jointly for holding a post mortem.

20. Emmet County—Sciatic nerve stretched, patient left hospital against orders, subsequent infection and loss of foot, suit not started.

21. Shiawasse County—Fracture of leg, delayed union, threat from attorney.

22. Bay County—Suit for chloroform death, involves one living and one deceased member.

23. Wexford County—Fracture of leg; threat from attorney.

24. Isabella County—Suit for alleged improper treatment of septic peritonitis, probably outlawed.

25. Wayne County—Threat by attorney for testimony given Board of Health regarding a lying-in-institution.

Case 25 is not exactly civil malpractice, but, arising from legitimate professional relations, would doubtless be defended by your committee, if anything further comes of it.

During the 2 years of this work we have handled 36 cases (involving 39 men), in 16 of which suit has been started, 4 have gone to trial and 2 won and 2 lost. Both cases lost are fracture cases and both are in process of appeal. Of 36 cases handled, 17 are fracture and dislocation cases. Lay juries show a strong disposition to demand perfect function and ideal beauty as proof of proper treatment of fractures and unless the Supreme Court will protect the profession we must ultimately refuse to care for fractures unless guaranteed immunity from blame for results. Of the 13 cases where suit has been begun some will go to trial; how many, it is impossible to say. Two are probably outlawed, some are certainly 'bluff' cases, at least 2 are quite certain of reaching the courts. Our attorneys believe that every threat of malpractice arises from the jealousy of a rival physician. While we do not hold so radical an opinion, we do know that some other physician is at the bottom of very many suits and threats of suits, and can prove it in many instances. The practice of medicine and surgery is hard enough at best. Why make it harder?

We desire again to call attention to the fact that all we can do is to provide the machinery for defense. We can *defend* only so far as the law and the facts offer defense. If these are not on the side of the doctor, we would do him a service by advising him to avoid the publicity of a trial. If the facts are in doubt with a certainty that a jury will pass on them, the *wise* man will consider, seriously, whether a laudable desire to prove himself right, justifies taking a larger chance of being proven wrong.

Financially we close the year with a balance of about $3000 in the treasury.

Respectfully submitted,

F. B. Tibbals, *Chairman.*
C. B. Stockwell,
C. W. Hitchcock,
J. Flintermann.

MEDICO-LEGAL COMMITTEE FINANCIAL REPORT

On hand Jan. 1, 1911 . . .	$2187.15	
Rec'd from dues.	2156.78	
Rec'd from Interest	35.10	
		$4379.03
Disbursements, 1911	$1204.97	
Bal. on hand, Jan. 1, 1912	3174.06	
		$4379.03

COUNTY SOCIETY NEWS

ALPENA

The annual meeting of the Alpena County Medical Society occurred Thursday, Dec. 14, at the New Alpena House. The society had issued a very attractive invitation which brought out the following guests: Frank C. Witter, Petoskey; E. A. St. Armour, Chas. B. Tweedale, Cheboygan; L. C. Kent, A. B. McGregor, C. A. Carpenter, Onaway; Geo. F. Lister, Hillman; J. C. Jackson, J. C. Wallace, A. Wilkerson, Alpena; and Mr. J. H. Bohner of Detroit. The following members were present: J. D. Dunlop, J. W. Small, D. A. Cameron, Ralph C. Smith, Geo. Secrist, James Eakins, Wm. A. Secrist, J. F. McDaniels, A. E. Bonnerville, A. Konoracki, Otto Bertram, S. T. Bell and C. M. Williams. Dr. Frank C. Witter of Petoskey, councilor for this district, was present as the guest of honor. A clinic had been arranged at a private house, (Alpena having no hospital) in the morning. Sixteen physicians availed themselves of the opportunity to witness an operation for the cure of ectopic gestation of six weeks, in which rupture and hemorrhage from the sac

had already occurred. Dr. Witter, the operating surgeon, was assisted by local surgeons.

Following the clinic, Drs. Bell and Cameron entertained the doctors at dinner at the New Alpena House.

The program of the day opened with a scholarly address by Frank C. Witter of Petoskey, on the "Value of Microscopical Specimens, in All Cases of Curettement of the Uterus." The speaker had prepared some excellent drawings, which added much to the value of the paper.

Other papers read were: "Cause of Typhoid Fever," Geo. Secrist, Alpena, and "Medical Societies," A. E. Bonnerville, Alpena.

A pleasing feature of the gathering was the election of Dr. Arthur Wilkinson of Alpena, to honorary membership, and to President Emeritus of the society. Dr. Wilkinson, for forty years, has been a leader in medical thought in northern Michigan, and well deserves this honor at the hands of his fellows.

The first number of the *Alpena Medical News* was distributed at the meeting. It contained the exaugural address of the President, J. D. Dunlop. *The News*, edited by C. M. Williams, sec. of the society, seeks to advance the interests of the professional men of Alpena, and is mailed free.

The following officers were elected: *President*, S. T. Bell; *Vice-Pres.*, Wm. A. Secrist; *Sec.-Treas.*, C. M. Williams,

C. M. WILLIAMS, *Secretary.*

DELTA

Delta County Medical Society held its annual meeting in the parlors of the New Ludington Hotel, Escanaba, Dec. 14, 1911. Dr. M. P. Fenelon was elected *President* for the ensuing year; Dr. A. S. Kitchen, *Vice-Pres.;* Dr. W. B. Boyce, *Sec.-Treas.;* Dr. David N. Key, *director for three years;* Dr. Jas. Mitchell, *Delegate;* Dr. A. L. Laing, *Alternate;* Dr. David N. Key, *Member Medico-Legal Committee.*

The meeting adjourned to the banquet hall where the society entertained a number of guests representing the other professions.

W. B. BOYCE, *Secretary.*

DETROIT ACADEMY OF MEDICINE

DR. JOHANN FLINTERMANN.

Dr. Flintermann died early today, Jan. 15, 1912, at Harper Hospital, after a week's illness from acute intestinal obstruction.

Johann Flintermann, though of German parentage, was born in Amsterdam in 1840. His youth was passed in Germany and he attended the Gymnasium in Lingen and pursued his medical studies at the University of Goettingen, where he graduated in 1864, passing the state examination at Hanover in 1865. A post-graduate course at the University of Berlin followed in 1865 and 1866, and in 1867 he was married in Goettingen, to Miss Dorette Schaefer, who survives him.

He came to Detroit soon after his marriage and here he lived until his death, taking always a most active interest in the medical activities of the city. He was an organizer and early member of the Board of Health, an ex-president of the Detroit Medical and Library Association, a very active member and once vice-president of the Detroit Academy of Medicine and, at the time of his death, president of the Detroit Society of Neurology and Psychiatry.

Dr. Flintermann was remarkable for the breadth of his information and culture, and his interests were not confined to the fields of medicine; for he was a constant reader of works of philosophy, and his general reading was unusual.

The passing years never diminished his alertness to know and adopt all that was best and new in his profession. He was always strictly up to date with medical progress.

He was an early member of the Harmonie Society and of other German organizations and known intimately to a large circle among the German residents of the city. But few men will be more missed, for his was a familiar figure in Detroit.

He is survived by his widow and five children, Misses Amelia and Elise and Mr. Rudolph Flintermann, residents of Detroit, and Messrs. Gerhard and Carl, residents of Brookline, Mass., and Philadelphia, Pa., respectively.

He was ever a foe to sham, a lover of the genuine and the true, and possessed an instinctive contempt for whatever masqueraded as knowledge but had no scientific backing. His manner was simple and unpretentious and he was ever modest and unassuming. Conscientious to a degree, he was a beautiful example of the highest type of the physician and the man of science.

We, of the Detroit Academy of Medicine, know well how simply and unostentatiously he went in and out among us, how he ever commanded our constant respect, how able he was in counsel, how kindly in advice and how genial and cordial in the relations of friendship.

His religious opinions were never crowded upon any one, but he was an earnest Christian and a constant reader of the works of the best religious thinkers. This is but in accord with the broad culture which characterized the man.

He was always ready to reach out a helping hand to younger men, eager to do anything in his power to help or stimulate them to scientific work. His life was many-sided and on every side white and pure, known and read of all men. As a physician, counsellor, friend, citizen, man of science, he commanded universal respect and admiration.

Though not wishing to intrude upon the privacy of his family relations, we may tender to his stricken family our deepest sympathy and speak of our own loss in terms of praise for the unspotted life of unusual attainments, the sheaf which has been garnered in the fulness of its maturity, the white life which has entered into its highest reward.

C. W. Hitchcock,
J. E. Emerson, Committee.

GRATIOT

At the December meeting of the Gratiot County Medical Society Dr. Brainard read a paper on "Ectopic Gestation" which was very much enjoyed, and discussed by Drs. Lamb, Bagley, Shaffer and Gardner. Dr. Highfield requested and the President, Dr. Gardner directed that the paper be sent to the Journal for publication.

There was considerable discussion of the fee question by members of the society.

Drs. J. R. Shaffer, E. M. Highfield, Chas. McLachlan and F. C. Thornburgh were elected to membership.

Officers elected for the year of 1912 were as follows: *President*, J. R. Shaffer; *Vice-President*, F. J. Graham; *Sec.-Treas.*, E. M. Highfield.

W. E. Barstow, *Secretary.*

HURON

The Huron County Medical Society held its regular quarterly meeting, January 8, at Dr. Herrington's office in Bad Axe. A motion was carried, requesting the State Board of Health to make gratuitously the Wasserman test. A committee on public health and education was decided upon to be selected by the secretary. Though it was excessively stormy and the thermometric mercury played around the zero mark the following members were present: Dr. Monroe of Elkton, Drs. Morrison and Yale of Pigeon, Dr. Friedlaender of Sebewaing, and the Bad Axe contingent consisting of Drs. Herrington, Lyman, Morden, Pfaff, Cooper and Conboy.

Daniel Conboy, *Secretary.*

JACKSON

The annual meeting of the Jackson County Medical Society was held in the library auditorium, December 7, 1911, at 2:00 P. M. Thirty-one members were present. Three new members were elected to membership. The election of officers resulted as follows:

Peter Hyndman, *President;* C. D. Munro, *Vice-President;* G. A. Seybold, *Secretary;* P. I. Edwards, *Treasurer;* C. G. Parnall, *Delegate;* C. H. Lewis, *Alternate Delegate.*

Dr. E. C. Taylor read a paper on "Conservation of the American Youth."

Dr. Geo. C. Hafford of Albion, read a paper on "Lipectomy" and reported a case.

Dr. W. T. Dodge of Big Rapids, Michigan, read a paper and reported 180 cases of appendicitis.

Dr. D Emmett Welsh ot Grand Rapids, Michigan, read a paper on "Otitis Media."

At 7:00 P. M. a banquet and reception was held in St. Paul's Guild House. Dr. Taylor acted as toast-master. The following toasts were responded to: "The Owen Bill," by Dr. W T Dodge of Big Rapids; "Relation Between the Physician and the Priest," Rev. Father Howe of Jackson, Michigan; "Harmony Among the Medical Profession," by Dr. D. Emmett Welsh of Grand Rapids; "Relation Between the Physician and the Dentist," Dr. C. J. Lyon, Jackson, Mich.; "The Physician of the New School," Rev. Maywood of Jackson.

The program was concluded by a few well chosen and optimistic remarks by Dr. Peter Hyndman, our newly elected president.

G. A. Seybold, *Secretary.*

KALAMAZOO ACADEMY OF MEDICINE

Choice of Anesthetic

Dr. Isabella C. Herb, Chicago.

Abstract: No one anesthetic should be used for all cases. Each has a sphere of usefulness. Nitrous oxide is the safest and quickest and is the anesthetic of choice when the nature of the operation and the physical condition of the patient admit of its use. Because it causes high arterial tension, it is best not to use it in heart lesions, exophthalmic goitre, advanced pulmonary tuberculosis, and in cases of atheromatous

degeneration, especially if aneurysm exists. The particular field of usefulness for this drug is for short operations and those in which ether and chloroform are contraindicated, as in acute nephritis. Complications rarely, if ever, follow its use. It may be used as preliminary to ether but not to chloroform.

Ethyl chloride and ethyl bromide are not recommended on account of their high mortality.

With aneurysm and general arteriosclerosis, chloroform is indicated. Ether is indicated in case of heart lesions, especially fatty heart.

The physical condition may make a general anesthetic hazardous, as emphysema and dyspnoea. Intracranial hemorrhage would be increased by high blood pressure. The condition of the heart muscle is of more importance than the valvular lesions. Fatty hearts are especially dangerous. Anesthesia is very dangerous in removing growths from the larynx or where cyanosis is already present. Ether should be used in anemia, diabetes and status lymphaticus. A low murmur may indicate a feeble heart muscle. In acute inflammatory conditions and recent pneumonia, chloroform or nitrous oxide should be used. Cases of acute nephritis demand nitrous oxide. In chronic inflammatory conditions ether may be used.

The amount of albumin in the urine is of less importance than the quantity of urine being secreted. The amount of anesthetic used is of great importance—the less used the better.

In obstetrical operations, as version, high forceps or Caesarean section, ether is indicated. In laryngectomies and operations about the mouth where chloroform is desirable, it is a wise precaution to anesthetize with ether and follow with chloroform. Alcoholics require more ether and more time to saturate their tissues; and because their reflexes are more active, a longer time must be allowed before operation begins.

Muscular rigidities are frequently due to asphyxiation and an excess of anesthetic rather than a lack of it. The remedy is to give more oxygen. Steady traction on the recti muscles will often overcome their rigidity.

Should the choice of anesthetic be left to the anesthetist? No; unless the latter is a physician, in which case it may safely be left to a professional anesthetist's judgment.

Annual Meeting, Dec. 14.

The status of the society at this time is set forth in the secretary's report, as follows:

SECRETARY'S ANNUAL REPORT, 1911.

The secretary very respectfully submits the following report for the year, up to and including December 13, 1911.

Number of active members	117
Number of honorary members	1
Number of members admitted during 1911	13
Number of applications pending	6
Number of members dropped for non-payment of dues	2
Number of members moved away from Kalamazoo	4
Number of members died	1
Number of regular meetings held	17
Number of special meetings held	1
Number of meetings held in Kalamazoo	14
Number of meetings held in Allegan	1
Number of meetings held in Otsego	1
Number of meetings held in Vicksburg	1
Average attendance at all meetings	32.6
Average attendance before Bulletin was published	28.6
Average attendance since Bulletin has been published	36.7
Average number of visitors	5

The new features of the year 1911 have been as follows:

1. The establishment of a second meeting each month.

2. The first publication of the Bulletin for each meeting instead of simply sending cards to announce the meetings.

3. The addition of many journals to the library, and more encouragement given to the use of same.

4. The attempt to start clinical programs as a part of each meeting. This is, at this date, entirely experimental, but if entered into properly by the members should add a great deal of interest, as clinical material is more interesting to many than papers.

C. E. Boys, *Secretary.*

KENT

In 1912 WHAT? It Depends on You

As a society we have been making giant strides. We are naturally pleased and a little bit proud. It is well, but it is not well to be too pleased, too satisfied.

For this advancement much credit is due our officers who have given much of their time and much hard work. Organization is now perfected, a splendid harmony exists, the membership roll is practically completed.

Your officers of this year will not be backward in contributing their work and their time, but from now on the advancement of the society will be dependent more on the quality of your work than ever before. Please bear in mind that this is your society and that its success depends on the work you do for it.

From time to time men from out-of-town, leaders in their special line, will be invited to appear before you; but in 1912 more, much more, will be expected from the individual member.

You cannot obtain the full benefit of your society—indeed, you will not even appreciate it, until you become an actual working unit. Look over the programs of the past five years. Just about one out of every eight of you would find his name there. The same few men are year after year carrying the burden of the program. This is not right. The talent of this society is not limited to these men. It is perhaps true that because of their greater experience they are easier writers and can produce a smoother paper, but this society made it possible for them to get this experience. It will do much for you if you will give it the chance. The first paper may be difficult, the second and third will be easier, and the doing it will be worth while. It will make this society and your profession mean more to you. Pick out the subject of the case in which you are at this moment interested, read it up, work it out and present it to us in a fifteen minute paper. Let us benefit by coming into contact with the activities of your brain.

We should have two papers every evening and occasionally three. We should have a meeting in which there will be few wasted moments.

The call-to-order will be promptly at 8:15. We should have an hour and a half, uninterrupted for papers and discussion. The discussion is often as important as the paper, but complimentary orations or a "that reminds me," are seldom worthy of the five minutes to which the discussion by our by-laws is limited.

Notify the secretary of your intention to write a paper, and then GET BUSY. Room for it will be found somewhere. You will benefit—we will all of us benefit, but perhaps the greatest satisfaction will come to you at the end of the year with the knowledge that you have helped give the Kent County Medical Society the best year in its existence.

B. R. Corbus, *President.*

LENAWEE

Lenawee County Medical Society held its first meeting of the year under its new officers, at Adrian, Jan. 9.

In spite of its being a very bad day there was a good attendance and plenty of interest taken by all in the discussion of cases presented by Drs. Andrews, Eccles, Seager and Lamley .

The society has adopted for its year's work the plan as carried out in the *A. M. A. Journal* and we expect to be heard from quite often in the future, as we are alive.

The following officers were elected: *President*, W. A. Sprague; *Vice-President*, A.W. Chase; *Sec.-Treas.*, I. L. Spalding; *Med.-Leg. Com.* L. G. North; *Delegate*, G. W. Lamley; *Alternate*, Frank Andrews.

I. L. Spalding, *Secretary.*

MARQUETTE

The annual meeting of the Marquette County Medical Society was held at the Breitung House, Negaunee, on December 21, 1911.

The following officers were elected for the ensuing year: *President*, Wm. B. Lunn, Marquette; *Vice-Pres.*, N. J. Robbins, Negaunee; *Sec.-Treas.*, H. J. Hornbogen, Marquette; *Delegate;* V. H. Vandeventer, Ishpeming; *Alternate*, C. J. Larson, Negaunee.

Pres. Jas. H. Kaye of the U.P. Normal School, was elected chairman of the committee on medical inspection of public schools. This committee was appointed a year ago and is composed of the following members: Dr. Jas. H. Kaye, Pres. U. P. Normal School; Supt. G. H. Gehrand, Public Schools, Marquette; Supt. E. E. Scribener, Public Schools, Ishpeming; Supt. O. Schurtz, Public Schools, Negaunee; Dr. Theo. A. Felch, Ishpeming; Dr. J. H. Andrus, Negaunee; Dr. H. J. Hornbogen, Marquette.

Theo. A. Felch of Ishpeming, was appointed chairman of the joint committees appointed in Ishpeming, Negaunee, and Marquette, for the purpose of taking up matters relative to public health.

H. J. Hornbogen, *Secretary.*

MECOSTA

On the evening of Dec. 15 the Mecosta County Medical Society held its annual meeting and elected the following officers for the ensuing year: *President*, L. S. Griswold, Big Rapids; *Vice Pres.*, H. B. Weaver, Mecosta, *Sec.-Treas.;* C F Karshner, Big Rapids; *Delegate*, Geo.

H. Lynch, Big Rapids; *Alternate*, A. A. Spoor, Big Rapids.

The Owen Bill, Contract Practice, and Medical Legislation formed the discussion of the evening after which the members sat down to a supper served by one of the local caterers. The society placed itself upon record as opposed to contract practice.

C. F. Karshner, *Secretary.*

MENOMINEE

The annual meeting of the Menominee County Medical Society was held Wednesday, Dec. 13, 1911, and the following officers were elected for the ensuing year, 1912.:

President, Edward Sawbridge, Stephenson; *Vice-Pres.*, B. T. Phillips, Menominee; *Secy.-Treas.*, H. T. Sethney, Menominee; *Delegate*, C. R. Elwood, Menominee.; *Alternate*, E. V. McComb, Menominee.

Henry T. Sethney, *Secretary.*

MUSKEGON-OCEANA

The annual meeting of the Muskegon-Oceana County Medical Society was held at the Occidental Hotel at Muskegon, Friday evening ,Dec. 8, at 8:00 o'clock.

Members present: Geo. S. Williams, F. B. Marshall, W. A. Campbell, L. N. Eames, I. M. J. Hotvedt, J. F. Denslow, P. J. Sullivan, J. H. Nicholson, Jacob Oosting, W. P. Gamber, R. G. Olson, G. J. Hartman, L. I. Powers, F. W. Garber, A. A. Smith, and V. A. Chapman.

Dr. Whitaker of Washington, D. C., of the United States Government Bureau of Animal Industry was present and gave a talk before the society on the subject of "Certified Milk." After this, the regular order for business was taken up.

The minutes of the last two meetings were read and approved as read.

Applications for membership were received from Dr. R. I. Bussard of Muskegon Heights, and from Dr. A. F. Harrington of Montague. Dr. Bussard's application was accompanied by dues of $5 00. Dr. Harrington's application was not accompanied by dues of $5.00. These applications for membership were referred to the Board of Directors and to be voted upon at the next regular meeting.

It was moved by Dr. Hotvedt and seconded by Dr. Garber that the executive committee with the board of directors be empowered to act for this society with authority on all matters pertaining to the meeting of the Michigan State Medical Society to be held at Muskegon in 1912. Carried.

The secretary read a communication from Dr. L. P. Munger, a member of this society, regarding his experience in the matter of the medical defense plan of the Michigan State Medical Society a copy of which follows:

Hart, Mich., Dec. 7, 1911.

Dr. V. A. Chapman, Sec'y.

Dear Doctor:

I enclose check for $5.00 to pay for my society dues. I have had my first experience with a mal-practice suit this year. The state society, through their attorneys have defended, or rather were prepared to defend it. But the plaintiff got cold feet when she learned that we would really fight it, and dropped it. Membership in the society is worth a great deal to a physician in a case of this kind, and I certainly appreciate the good done in my case.

With kind regards,

L. P. Munger, M. D.

"Maggie DeLong vs. Louis P. Munger. Plaintiff submitted to non-suit, and case was dropped. Neither party to recover costs."

The society proceeded to election of officers. This resulted in, Geo. S. Williams, *President*, re-elected; J. H. Nicholson of Hart, *Vice-President*; V. A. Chapman, *Secretary*, re-elected; Jacob Oosting, *Treasurer*, re-elected; P. J. Sullivan, *Director for three years*; W. L. Griffin of Shelby, *Delegate;* J. D. Buskirk of Shelby, *Alternate*; Dr. Garber, *Medico-Legal Representative.*

The society adjourned to luncheon.

Regular meeting of the Muskegon-Oceana County Medical Society was held at the Occidental Hotel at Muskegon, Dec. 22, 1911, at 8 o'clock, P. M., after dinner at 6:30 P. M., as the guests of Drs. Jacob Oosting and J. T. Cramer.

Members present: Drs. Geo. S. Williams, I. M. J. Hotvedt, G. J. Hartman, Jacob Oosting, P. A. Quick, W. A. Campbell, A. A. Smith, J. F. Denslow, F. B. Marshall, L. I. Powers, J. T. Cramer, W. P. Gamber, and V. A. Chapman.

Dr. Huizinga of Grand Rapids, Dr. DeHaas of Fremont and Dr. Parker of Hackley Hospital were guests.

Minutes of the last meeting were read and approved as read.

The application of Dr. R. I. Bussard of Muskegon Heights, was voted upon. Eleven ballots

were cast of which all were in favor of Dr. Bussard's application. In like manner and with the same results Dr. A. F. Harrington of Montague, was elected to membership.

Dr. DeHass of Fremont, presented the matter of having the state do Wassermann reaction tests free

Dr. Marshall moved, Dr. Gamber seconded, that the Secretary be instructed to write to the Secretary of State Board of Health in the name of this society, requesting that the state make such arrangement as to enable physicians of this state to have the Wassermann reaction done at the state laboratory without charge in the same manner as is now done for tubercular sputum cases. Carried.

Dr. Huizinga, of Grand Rapids, gave a talk to the Society on the subject of, "Some Common Diseases of the Nose and Throat."

The discussion was opened by Dr. Chapman who was followed by Drs. Hotvedt and Gamber.

Meeting adjourned.

V. A. Chapman, *Secretary.*

Muskegon, Michigan, Dec. 28, 1911.

State Board of Health of Michigan,
Lansing, Mich.

Gentlemen:

At the regular meeting of the Muskegon-Oceana County Medical Society held at Muskegon, Dec. 22d, 1911, it was formally moved, seconded and carried, "That the secretary be instructed to write to the State Board of Health in the name of this society, requesting that the State Board of Health make such arrangements as to enable physicians of this state to have the Wasserman blood test for syphilis done at the state laboratory without charge, in the same manner as is now arranged for sputum examination in suspected cases of tuberculosis."

The physicians of this society comprising Muskegon and Oceana counties feel that a war against syphilis is even more necessary for the health, wealth and happiness of humanity and the future development of the human race, than the war against tuberculosis.

This society believes that if such an arrangement as mentioned in the above quoted motion could be made, it would be a very long step in the direction of cure and prevention of the *great insidious evil.* Very truly yours,

V. A. Chapman, *Secretary.*

ST. CLAIR

The annual meeting of the St. Clair County Medical Society was held at the Hotel Harrington, Port Huron, on Thursday evening, Dec. 14, 1911.

After dinner the meeting was called to order by Pres. Heavenrich, with twenty-five members present.

The election of officers followed. Dr. A. E. Thompson of St. Clair, was elected *President;* Dr. A. L. Callery, Port Huron, *Vice-President;* Dr. R. K. Wheeler, Port Huron, *Sec.-Treas.;* Dr. W. P. Derck, Marysville, *Delegate;* Dr. W. B. James, Marysville, *Alternate.*

Dr. Heavenrich followed with an able address in which he reviewed the work of the year, and wished his successor all kinds of success.

The paper of the evening was read by Dr. J. A. Attridge of Port Horon, who took for his subject "Gastric Ulcer, Its Diagnosis and Differentiation." The discussion was opened by Dr. M. Willson and was followed by a spirited general discussion.

The meeting adjourned to meet at St. Clair on Jan. 11, 1912.

R. K. Wheeler, *Secretary.*

TRI-COUNTY

The regular meeting of the Tri-County Medical Society was held in the K. P. Club rooms, Cadillac, Jan. 4, 1912.

Owing to the many events of the evening the program was abbreviated. The only paper read was the one presented by Dr. Devere Miller. This was an able and well prepared paper on "Food poisons." The first portion, all that time permitted to be read, dealt with meat poisons. These were considered, 1st. As poisons due to meats from diseased animals; and, 2nd. As poisons due to changes occurring in many ways after killing of the animal.

The society voted in favor of supporting the move instigated by the Newaygo County Medical Society, requesting the State Board of Health to make the Wasserman test for syphilis free, as the Widel and other tests are now being made. A favorable reply was received by the secretary from Dr. Dixon, who favors the institution of these examinations.

If enough societies make the request to justify such a move by the State Board, we will have a most valuable means of diagnosis at our command, far more accurate than can be had from inferior laboratories.

The physician must, however, put Dr. Dixon's fear that it will not be used sufficiently to justify its continuation, to flight, by making

use of the test when opportunity presents itself.

After the regular session, the school board, dentists and nurses of Cadillac, acting upon a prior invitation, presented themselves in order to consider the possibility of instituting a system for the medical and dental inspection and supervision of the public schools of Cadillac.

The subject was considered for some length; plans in vogue at present in other cities were presented.

The plan decided upon places every school in Cadillac under direct supervision of one or two physicians each. Each physician of Cadillac will spend as much time as necessary, not to exceed one half day each week, in examining the children and the sanitary conditions of the buildings and premises.

Each school will have a dentist to look after the children's teeth; this work will be divided equally among the dentists of the city.

A plan is on foot to establish a dental clinic in a suitable room in the new High School building, and arrange so that there will be a dentist in attendance one morning each week to care for the teeth of the city's poor children.

All the work on the part of both physicians and dentists will be gratuitious.

A trained nurse will be engaged to assist in this work and help look after the home conditions, to gain the co-operation of the parents and induce them to properly care for their children.

After this session, upon the invitation of the county society, all adjourned to the dining room and partook of a lunch and smoker. No formalities being observed, the reigning spirit was one of congeniality, and good fellowship predominated.

Rudolph J. E. Oden, *Secretary.*

WAYNE

At the meeting of the Medical Section, December 11, 1911, Dr. Charles D. Aaron read a paper, illustrated with the kineometograph, upon "Hormones—The Action of Peristaltic Hormone on Intestinal Peristalsis."

The chairman, Dr. James Cleland, Jr., and Dr. Ray Connor, acting as temporary secretary, presided.

Ninety-two members were present.

Hormones—The Action of Peristaltic Hormone on the Intestinal Peristalsis

With a Kineometographic Demonstration

By Dr. Charles D. Aaron.

It has been demonstrated recently that the cells of the mucous membrane of the stomach elaborate a chemical substance that stimulates the peristalsis of the intestine. Starling calls such a substance with a specific action a hormone. The hormones are formed during normal metabolism and stimulate certain cells. In the stomach we find a gastric hormone secreted in the antrum pylori. When absorbed this substance induces the secretion of gastric juice. It is an essential peculiarity of most hormones that they act upon other organs of the body, whereas the hormones of the gastrointestinal tract have no influence upon the general system. The hormones of the digestive apparatus act upon the digestive secretion, exciting the sense of taste and inducing the secretion of the peptic glands. These peptic glands are stimulated from the antrum pylori by way of the blood. If the extract of ground mucous membrane of the antrum pylori is injected into dogs with a solution of hydrochloric acid or meat extract, the glands in the fundus of the stomach begin to secrete. Extracts of the pyloric mucous membrane by themselves or extracts of the fundus mucous membrane treated in a simliar way do not produce this result. We may assume, therefore, that the antrum mucous membrane being stimulated by the meat extract produces a hormone, the so-called gastric secretion, which after absorption stimulates the secretion of the gastric juice. This, I believe, has as yet not been sufficiently recognized, in gastric diagnosis. In the intestinal mucous membrane there is another hormone, which stimulates the secretion of the pancreatic juice. It is elaborated by the action of the hydrochloric acid of the gastric juice on the intestinal epithelium.

Zuelzer observed the specific effect which peristaltic hormone has in stimulating peristalsis and uses the splenic substance for the production of it for therapeutic purposes. This hormone is probably developed in the gastric mucous membrane and is stored up in the spleen. In fact, this organ is regarded as a storage place for the peristaltic hormone, because it contains these in large quantities. The peristaltic hormone has the capacity of stimulating the peristalsis of the intestine. It has been used in chronic constipation and in

acute paralysis of the intestine. But the treatment is not altogether without distress for it frequently causes pain and fever. If used for therapeutic purposes this peristaltic hormone must be introduced intravenously or intramuscularly and its absolute sterility must therefore be made certain. It has, in fact, been found that its intramuscular introduction produced pain and a rise of temperature, and the intravenous method is being preferred owing to the fact that it reduces the pain, fever and discomfort of the patient.

The observed fact that the hormone stimulates intestinal peristalsis, led quite naturally to its employment in chronic constipation. In spastic constipation we have an overstimulation of the intestine and the use of the hormone in such cases is, of course, irrational. In the atonic form, however, the hormone becomes valuable. Zuelzer reports success in 71 per cent of many cases of chronic constipation, in which evacuations had previously not been possible for a period of years without cathartic or enemata. He feels himself justified to urge that, in the light of the discovery of the paristaltic hormone, the whole subject of constipation be revised. He suggests two theories with regard to the nature of the therapeutic effect of the peristaltic hormone. In the first place, in cases of chronic constipation we have a complete absence of normal production of the peristaltic hormone or a quantitative insufficiency of it. When introduced, it stimulates the beginning of a normal elaboration of hormones in the body. And in the second place, it may be that the stimulus for the start of the intestinal peristalsis in atonic chronic constipation is produced when the hormone is administered, by the intervention of the nervous system. The hormone may exert a specific stimulant action upon the abdominal ganglia. The ability to convey the stimulus may have been disturbed or dulled. An artificial saturation of the organism with peristaltic hormone may vigorously stimulate the nerve cells and enable the body to react again to the normal stimuli.

Zuelzer uses 40 cc. of peristaltic hormone for an adult and 20 cc. for children. The injection is made only once and the median vein is the best place for it. The skin is prepared aseptically and an Esmarch bandage applied on the upper arm to make the vein prominent. The fine needle of the syringe is introduced into the vein, the Esmarch bandage loosened and the contents of the barrel of the syringe are slowly forced into the vein. The needle is removed and a slight pressure with gauze is applied to the point of entrance. A small piece of adhesive plaster is then applied. Usually no reaction ensues. It is advisable to follow up the injection with one dose of castor oil. It serves as a lubricant while the hormone induces the normal peristaltic action. As against other remedies employed in chronic constipation, the peristaltic hormone has the superior merit that, having started evacuations there is no need to inject more of it.

The paper was followed by a kineometographic demonstration of the action of peristaltic hormone on intestinal peristalsis, and the movements of the pyloric end of the stomach.

Doctor Carstens opened the discussion.

Doctor W. H. Morley, in discussing the paper, said:

"The word 'hormone' was coined by Bayless and Starling, and comes from the Greek word meaning to excite or to stimulate. While the term has had almost universal adoption as referring to the active principle of the glands, possessing an internal secretion, still it must be used in its modified and not restricted sense. When one refers to the active principle of such glands as the thyroid, thymus, parathyroids, hypophysis, and adrenals, the term is applied, but when the active principle of the testes, ovaries, spleen and pancreas is considered, the word hormone must be applied in a modified sense. The active principle of the former mentioned glands does excite and stimulate, but of the latter, the active portion inhibits or depresses. In other words, there are exciting or stimulating hormones and inhibiting or depressing ones.

"Every organ, every tissue and, indeed, every cell changes the character of the body fluids, and each produces by means of its specific product, carried in the blood stream, a certain definite and fixed action. In the group o. organs with an internal secretion, belong, not only the so-called hematogenous glands, but every organ which in any way through its specific product, or hormone, produces even a remote effect upon the entire organism. Our present knowledge of this complex question is so great and so much has been done to clear up many of the hitherto unexplained phenomena, that it would be impossible to cover all the points in a short discussion. Dr. Aaron has covered the subject so thoroughly regard-

ing one phase of this extensive subject that mention will be made of only a few points brought out by him, simply to emphasize them. I firmly believe that all organs that possess an internal secretion are closely joined together in a harmonious union. When one of these internal secretory organs becomes for some reason diseased, this harmony is destroyed and all sorts of troublesome symptoms arise. Chemically and morphologically, the action of the various hormones is still in a hazy state, and while we have nothing definite or tangible to explain some of these aforesaid troublesome symptoms, still we are adding daily to the sum total of our knowledge of the action of the various hormones. It is a well established fact that a lack of the ovarian hormone at time of menopause causes many troublesome symptoms whose origin was for a long time unexplained.

"The congenital defects of the thyroids, adrenals, etc., lead to a lack of development of the bony and nervous system. Better understood however, is the influence of these organs in the period of extrauterine development, in the period before the individual has reached complete development. The late development or failure of development of certain organs, their removal, their destruction by diseases, the results of organotherapy, all point to the fact that these hormone producing organs exert a very great influence upon the organism, which influence is either harmonious or antagonistic, either through direct chemical action upon certain tissues, or indirectly through the nervous system.

"The hormones of the adrenals and perhaps of the thyroids have been isolated. Those of the other glands are known to exist but have not been recovered in a pure state.

"Then there is the reciprocal action of the different hormones. For example, take a case of acromegaly; this is due to a disturbance in the anterior lobe of the hypophysis, but, at the same time, changes are found in the genitalia, in the thyroid and in the thymus. Falta et al. working in von Norden's clinic in Vienna were able to prove that the hormones of the thyroid, pancreas and adrenals had a certain fixed reciprocal action—proving at the same time the inhibiting and stimulating action of the hormones. Thus showing that disturbed function of one gland causes hyper- or hypo-function of the other glands. For instance the hormone of the pancreas had an inhibition upon both the thyroid and adrenals and the adrenal hormone caused inhibition of the pancreas, but stimulation of the thyroid.

"Further examples might be cited to show the intimate relation, both direct and indirect, between the different hormones, but time will not permit."

Dr. Hirschman said constipation is caused by a great many etiologic factors and there are many varieties of constipation. I take it that Dr. Aaron refers only to the chronic atonic variety His kineometographic illustration of peristalsis in the ileum of the rabbit is beautiful and leaves no doubt in one's mind as to the stimulating value of the hormone in the small intestine. When one recalls however, that 99% of all cases of constipation are colonic and the ileum in these cases normally active, one fails to see the particular advantage of stimulating and increasing the peristaltic activity of the ileum.

I have demonstrated in a patient who had gone four months without a bowel movement, the presence of bismuth at the ileo-cecal valve ten hours after its ingestion. It is also a well-known fact that almost any intravenous injection will stimulate the action of the small intestine. Moreover, I fail to see how the injection of a single dose of a foreign hormone will restore the functional activity of over-stretched, fatigued and atonic circular muscle fibres of the large bowel, to say nothing of the small.

If peristalsis is due to a hormone, then let us use measures to increase the patient's production of peristaltic hormone. How is this accomplished?

First, by a diagnosis from the history, proctoscopic and radiographic examination of the patient.

Second, the treatment of the constipation by hygiene, diet, exercise and local massage to the atonic muscle fibres of rectum and colon. This by improving elimination and stopping absorption of soluble toxins, will, in turn, improve digestion, and elimination will have improved glandular activity, and, as the production of peristaltic hormone is part of the physiology of the digestive tract, it follows that hormone production will increase as well and the patient will be cured.

These are the facts as borne out by my personal experience.

The paper was also discussed by Doctors

L. Breisacher, V. C. Vaughan, Jr., E. W. Haass, P. M. Hickey and S. E. Sanderson.

At the general meeting of the society on Monday evening, December 18, 1911, Dr. T. B. Cooley read a paper upon "The Infant Welfare Movement."

Dr. B. R. Schenck, as chairman of the library committee, read a report, as did Dr. W. H. Morley, as chairman of the House Committee.

Dr. W. E. Blodgett, as a preliminary to the introduction of a resolution, spoke upon the value of the X-ray as a means of diagnosis and of the absolute necessity of men doing this work who are properly educated and equipped. He deplored the use of this valuable aid, when in the hands of the charlatan. He deems it but right that the educated members of the profession should support but those who by their qualifications and experience will and can aid by proper interpretation in the diagnosis and cure of disease. The resolution which was supported by Dr. Tibbals, reads as follows:

Whereas, radiographic examination and treatment by incompetent persons is dangerous to the public, and degrading to their regular medical advisers, and whereas, persons who are not licensed practitioners are presumably not competent to practice radiography.

Be it resolved that the Wayne County Medical Society deprecates the practice of radiography by persons not licensed to practice medicine, unless specially qualified.

And be it further resolved that copies of these resolutions be printed in "The Weekly" and in the State Journal.

Dr. E. W. Caster, Detroit College of Medicine, '11, and George F. Burke, D. D. S., the former as active and the latter as associate, were admitted to membership upon vote of the society, they having been recommended by the Board of Trustees.

The Chairman, Dr. H. O. Walker, and Dr. J. H. Dempster, acting as temporary secretary, presided.

Eighty-three members were present.

The Infant Welfare Movement

By Dr. T. B. Cooley

The mortality rate among infants is excessively high, and of those who do not die in infancy, many are hampered throughout life by the effects of infantile disease.

Much of this mortality and morbidity is wholly unnecessary, and its diminution is of the highest importance to the individual, the community, the nation, and the race.

The most important factors in the causation of disease and death in infancy are:

1. Disease in the parents. Syphilis is especially influential.

2. Illegitimacy. The illegitimate child suffers more than any other from all the causes of disease.

3. Insufficient care of the pregnant woman, due to ignorance, carelessness, and poverty.

4. Bad obstetrics, for which the medical profession as well as the midwife is to blame.

5. Lack of breast feeding, due to ignorance on the part of mothers, physicians, and nurses; to poverty, which forces the mothers to work to the detriment of her milk supply, or deprives her of the food she needs for its maintenance; to illegitimacy, which leads to the abandonment of the infant to institutional care.

6. Unhygienic surroundings, lack of ventilation, overcrowding, filth, overheating in summer, etc. These are due to ignorance and poverty.

7. Institutional care, involving lack of breast feeding, exposure and infection, lack of individual care, and the undefined condition which may be called "institutionism."

8. When the child is bottle fed, over-feeding, unsuitable milk mixtures, indigestible substances other than milk, are more important as causes of disease than dirty milk. Dirty milk carries specific infections at times, such as tuberculosis, typhoid, etc., but is no longer believed to be the chief cause of diarrheal disease.

There has developed lately a widespread and important movement for the study and prevention of disease and death among infants, systematizing and co-ordinating the work done along different lines, and making it more practical. The movement is older and the work more advanced in Germany, France and Hungary. In America the Association for the Study and Prevention of Infant Mortality, now only two years old, is a representative and important body, determined to have great influence in the stimulation and direction of this work.

The lines of greatest progress, and the chief needs for this work are as follows:

1. We must have better statistics of births and deaths. This is imperative for a thorough understanding of the problem.

2. Better education in obstetrics must be

provided for physicians. It is an open question whether individuals are to be abolished or educated. Probably the best solution of the obstetric question for the poor is the establishment of obstetric dispensaries.

3. There should be less institution care of infants and more "nursing homes," all of which should be under municipal supervision. More wet nurses should be provided in institutions.

4. Some one should be definitely responsible for the illegitimate child. The German plan of making the city the legal guardian for all these is good.

5. There should be here, as there is abroad, some system of aiding needy pregnant women and nursing mothers by means of food, money, or temporary homes.

6. The most obvious method of attacking infant mortality is by education, as ignorance is the greatest single factor in its causation. The greatest advances are being made along this line. "Prophylactic dispensaries" for teaching breast and bottle feeding, infant hygiene, etc., have been well developed abroad, and are spreading rapidly in America. The work is carried on by physicians at the dispensaries and visiting nurses at the homes. The nurse is indispensable. Where this system is best developed, mortality among infants supervised at the dispensaries has been very greatly lowered.

"Little mothers' classes" in the schools are a recent development, believed to promise great results.

7. A great need in America is cooperation among the various agencies and coordination of the work.

In Detroit "prophylactic dispensaries" are maintained by the Board of Health and the Babies' Milk Fund. The Milk Fund supplies clean milk. Little mothers' classes have recently been started in the schools. The educational work does not nearly cover the whole city and a much greater expenditure of money is needed.

Dr. Guy L. Kiefer, in opening the discussion on the paper of the evening, referred to the work which had been undertaken by the Board of Health in their effort to reduce the infant mortality in this city, and since the inauguration of the campaign, the death rate had fallen from 187.1 per 10,000 population in 1909 to 150.8 in 1911. He advised the supervision of midwives and greater care on the part of physicians who do obstetrical work. Of the children who died under one year of age, one-sixth of the number died within the first 24 hours. The doctor spoke of the work of the Board of Health in supervising maternity houses and stated that the so-called baby boarding house was a bad condition which also needed supervision. He advised the prompt reporting of births, in order that statistics might be more reliable.

Dr Francis Dufield thought that the causes of infant mortality might be summarized into ignorance of mothers and indifference on the part of physicians. Since the Board of Health has insisted upon the registration of midwives an improvement has been noted.

He spoke of the success of the Little Mothers' Leagues established at the McMillan, Bishop and Wilkins schools, where the children had manifested great interest in what they are told about fresh air, the handling of milk, care of bottles and the general hygiene of the baby.

Dr. R. S. Rowland produced a paper germain to the subject of the evening, which paper had been written in 1875. The extracts read went on to show how mature the ideas on prophylaxis of infantile diseases and the care of infants were, forty years ago.

Dr. David J. Levy said more recent knowledge makes it evident that we cannot with justice place the same degree of blame as we were formerly inclined to upon the milk, itself, as the prime factor in the production of infant mortality. Heat, housing, clothing, etc., must enter into consideration and not the least, our own feeding methods. The Milk Fund provides our poor and dispensary patients with pure milk. The visiting nurses attempt to enforce our instructions. We can effectively co-operate by advising longer feeding intervals, which, among other advantages, enables the mother to defer weaning; and in the case of the child who must be artificially fed, by prescribing easily prepared milk dilutions, instead of complicated percentage formulae.

Dr. J. H. Carstens said he believed with the essayist in the importance of cooperation but even with co-operation, poverty and ignorance were obstacles almost insurmountable. He took decided objection to the statements that infant mortality was due to unskilled midwifery. He considered that the medical profession in general were first-class obstetricians and took great interest in the movement.

Dr. F. B. Tibbals considered the medical

profession in no way to blame for the prevailing conditions responsible for infant mortality. The lower classes of women would not seek the advice of the medical profession so that the physician could not be held responsible for mothers before labor when he was not consulted in the matter. He referred to the small remuneration which he believed to prevail in this city.

Dr. Herbert M. Rich said Dr. Cooley's paper presented a very timely subject for discussion because the movement was assuming the character of an international campaign and it was highly necessary for the success of the movement that the medical profession keep ahead of it. In the last analysis these movements must always be directed by men with medical training. While the work is of first importance to the public health authorities, every practitioner has his share to play, and the success of such a campaign depends in large measure upon the degree to which the medical profession support it.

Discussion is needed because of the lack of agreement upon many points connected with infant hygiene and infant feeding. This science is comparatively new and deserves the study of every practitioner. There are but few medical schools in which the subject is adequately taught and in many it is not taught at all. Pediatrics as such has been taught at Ann Arbor only four years, and the investigation of statistics shows that the most vulnerable body of mortality, if such an expression be permissible, is the mortality of the first two years. Dr. Holt, of New York, a few years ago in a presidential address before the American Pediatric Society, reported that the general infant death rate was nine times as large as the death rate among the infants cared for by members of that society. Whatever allowances may be made these figures remain startling.

In probably no other line of special medical practice is there so little agreement between the medical centers of Europe and those of America, as in the artificial feeding of infants. The so-called "American system" of percentage feeding, for example, is scarcely known in Germany. Recent editions of Heubner and Baginsky, for example, do not mention it. To be sure, they modify cows milk, but scarcely in a manner to warrant the use of the term "percentage system." Escherich described the percentage system to his class in the writer's hearing and remarked that when used in conjunction with a milk laboratory it was an ideal plan, but altogether too expensive for general use on the continent.

On the other hand, the large amount of work done in Germany on metabolism and caloric needs has received little attention here.

As a matter of fact either system is incomplete—they complement rather than supplement each other. Many cases do well on either plan, but a complete system must be able to calculate quantity of food as well as quality.

Again, it is quite as irrational to treat all infant diarrheas alike as it would be to treat all children's fevers alike. We are able now to classify them and the treatment varies greatly.

These instances are given simply as evidence of the need for medical societies to discuss the question of infant hygiene until the essentials are agreed upon.

Mr. C. W. Melick, Doctors J. E. Davis and C. H. Judd also discussed the paper.

At the general meeting of the society on January 8, 1912, Mr. R. M. Leggett, Civil Engineer, of Ann Arbor, read a paper upon "Ozone," illustrating it with the stereopticon The paper which was of great interest and scientific value was enthusiastically listened to by a small but very appreciative audience. The paper was briefly discussed by Doctors Carstens, Longyear and Babcock.

The chairman presented a communication from the state secretary relative to the appointment of members to serve on a committee of public medical education. The meeting authorized the president of the society to appoint two such members.

In the absence of the regular chairman and secretary for the evening, Vice-President B R. Schenck and Ray Connor presided as chairman and secretary respectively.

Fifty-one members were present.

Ozone

By R. M. Leggett, C. E., Ann Arbor, Mich.

Ozone is allotropic oxygen the polemerization from O_2 to O_3 being due to the photochemical action of the ultra-violet ray upon oxygen. It is used in the industries to produce vanillin by passing it through oil of clove. Marsh gas is converted into formaldehyde, potato starch into a substance resembling gum

arabic, and turpentine may be converted into camphor.

In water purification it has an extensive field. Here we have to deal with impurities both in suspension and solution. Aside from contained mineral salts, there is nothing in ordinary water that is not capable of removal by this agent of oxidation. The average natural water contains from 1,000 to 10,000 bacteria per cc.

The application of ozone to water as a purifying agent is accomplished by special equipment which breaks the water into a fine spray, bringing every part of it into contact with the ozone.

The method of ozone sterilization in municipal water supplies is in use in a number of cities in Europe and at the Ann Arbor water supply in this country. Repeated bacteriological tests have shown that water taken after ozone application has been absolutely sterile. Its application to municipal water supply plants does not involve a prohibitive cost, on the contrary it is very reasonable.

Ozone is used in the sterilization of air for the ventilation of crowded rooms—two instances of its present use was demonstrated in this city.

Ozone is of use in the treatment of pulmonary diseases—more particularly in tuberculosis and some apparently remarkable cures were spoken of.

Rolland Parmeter, *Correspondent.*

LIBRARY NOTES.

The arranging and cataloging of the books in the library has progressed steadily and there are now on the accession book some 9,500 non-duplicates. Duplicates to the number of 3,300 have been sorted out, listed and stowed away. During the past year gifts have come so rapidly and the number of volumes in some of the presentations has been so great that it has taken months to get them in order. Infact, the work is not yet completed.

The duplicates are largely made up of bound periodicals, and it will be the work of the coming year to arrange exchanges for as many of these as possible, thus filling in our broken files. We may justly be proud of many of our files—others are fragmentary.

The best feature of the library is the fact that it is being used. For the most part books are consulted in the library rooms, but during the year 204 volumes were withdrawn. The rules governing the loaning of books are the same as those in force at the city library.

We greatly need a fund for the purchase of new books. Until the mortgage on the building is paid off and we are free from interest charges, the society has no funds for periodicals or new books, and whatever is spent on these must be raised by subscription. Last year many journals were donated and besides, the sum of $171.74 was collected for subscriptions. Of this $140.32 was spent. We need this year at least $200 and if this sum can be raised, not only can we continue the periodicals already on the list, but a few new books can also be purchased.

It is to be hoped that the response for this purpose will be liberal and prompt---especially prompt, as there is too much work to be done for more time to be spent in making collections than is absolutely necessary.

Last year the committee met with prompt payments in nearly every instance.

During the past month the stock room on the third floor has been rewired and is now well lighted.

One hundred and seventy-five volumes of back numbers of periodicals have been bound and are in place on the shelves. During January the 1911 journals will be at the binders, but an effort will be made to have them promptly returned.

Among the jobs which must be done during the coming year is the making of a list of periodicals in Detroit, and not in our library. This will enlarge the potentialities of our library as a working reference plant, at least three times, and will make possible the finding of any ordinary reference.

Miss White is prepared to look up references on any subject. During the past year 25 such lists have been made for members.

B. R. Schenck, *Chairman.*

NEWS

Dr. J. F. Adams of Mt. Pleasant, with his family, is spending the winter in Little Rock, Arkansas, on account of impaired health.

President Taft has nominated for Surgeon General of the United States Public Health and Marine Hospital Service, Dr. Rupert Blue of South Carolina, who is credited with driving the plague out of San Francisco. In making

this appointment President Taft has announced that hereafter the office of Surgeon General of the United States Public Health and Marine Hospital Service shall be for four years. Formerly the term of office has been unlimited.

James Beecham who has made a fortune from "Beecham's Pills" is the latest British baronet—the same "honor" bestowed upon William Osler a year ago.

According to the last census there are 130,000 physicians in the United States, or one to every 650 of the population, and the average income is said to be $1200 per annum.

The pure food decision prohibiting the use of saccharin in foodstuffs which was to have become effective last July 1st, but which was extended by the "Three Secretaries Board" to January 1st, 1912, has again been extended to February 1st. It is stated this is to give the Secretaries of Agriculture, Treasury and Commerce and Labor more time to consider the matter.

Dr. R. C. Jamieson, Secretary of the Wayne County Medical Society, recovered from his attack of typhoid fever sufficiently to be out of the hospital, but about Christmas time suffered a relapse and was again confined in Harper Hospital. Dr. Jamieson has been out of the hospital since the early part of January and on January 22nd went to New York, from which place he sails for Alexandria, Egypt, to be gone until June.

The following notice has been handed us for publication:

We, the undersigned, physicians of Boyne City, Michigan, refuse to identify ourselves in a professional way with any lodge contract practice such as The Eagles, etc.

Signed, Boyne City, Mich., December, 1911.

Harry E. Shaver,
S. B. Hirschberg,
E. W. Vis, M. D.,
J. H. Bennett, M. D.,
H. E. Boice, M. D.,
W. Ellwood Tew,
John H. Charters.

—The Evening News, Boyne City, Jan. 11, 1910.

COMMUNICATIONS

To The Editor:

The public health education committee of the Michigan State Medical Society, after carefully considering the various methods of obtaining permanent and definite results in the state, feel that if each county society unites in carrying out, as far as possible, the suggestions made below, typhoid fever can be practically eradicated from the state and a cleaner milk product be obtained. The committee feel that much more can be accomplished by concentration on a few subjects and by working through such permanent organizations as exist in the various communities, such as women's clubs, men's church clubs, county Granges, Y. W. C. A., and Y. M. C. A. The state committee would suggest:

1. That the clubs and other organizations before which talks are given, appoint health committees to carry on more permanent educational work in their various organizations.

2. That the concentrated effort of the committee from each county society be directed toward securing a clean milk supply and the eradication of typhoid fever.

3. That in the consideration of typhoid fever especial attention be paid to the study of surface wells and sewerage in towns, villages and country districts (the city water supply being taken care of by the Board of Health) and the manner of conveying infection with the homes.

4. That the clubs and other organizations undertaking this work be supplied with literature which shall include

(a) Public Health Bulletins from State Board of Health.

(b) Special literature can be obtained by writing Dr. Cora A. Moon, Shepard Bldg., Grand Rapids, secretary of this committee.

(c) Bulletins from U. S. Department of Agriculture.

5. That the subjects of a national department of public health and of vivisection be introduced into each talk, if possible.

6. That there be given one or two lectures a year by out-of-town speakers to large audiences, and a series of lectures by local physicians. We approve the plan of lecturers from outside the state to be arranged for by the A. M. A.

The names of speakers and the subjects which have proven most interesting and valuable can be obtained from the state committee.

Frances A. Rutherford,
Jeanne Solis,
Blanche Epler,
Anna O'Dell,
Cora A. Moon.

New York, January 24, 1912.

Dear Editor:

Notwithstanding the Editor of the Indiana State Journal holds you up to scorn, he is running advertising in his Journal that has been tabooed by the Council and thrown out. I am enclosing an adv. taken out of Indiana State Journal January 15th, which product has been thrown out by the Council as above mentioned. While he might not know the action of the Council, its his business to learn before he presumes to lecture you.

Yours truly
Fairplay.

MEDICAL ECONOMICS

MEDICAL FREEDOM

A most vicious type of yellow journalism is now being circulated in Kalamazoo among school teachers as well as elsewhere, under the title of "Medical Freedom." This publication opposes medical inspection of schools, vaccination, anti-toxin, boards of health, the proposed National Department of Health and the American Medical Association; in fact, seemingly, most everything except Eddyism, pseudo-healing cults and patent medicines. The sheet is full of misleading statements, as "We interviewed the Mayor and Aldermen and were successful in striking out all appropriations for medical inspection from the school budget." This article conveys the idea that a "Doctors' Trust," through political intrigue, has forced medical inspection upon Grand Rapids. According to the statement of a former teacher there, the facts are that school inspection in Grand Rapids originated among the teachers themselves, who asked that it be instituted. The school funds being limited, the inspector is paid out of the funds of the Board of Health, and Grand Rapids schools *are* inspected; yet the inference of this sheet is that this city has discarded medical inspection, and that "Medical Freedom" has scored a victory. The same issue conveys the impression that school inspection means "Stripping pupils for medical tests" but without actually saying so. The effect on the casual reader, however, is that of a positive statement. One sometimes is forced to think that it would be a good thing to allow some of these "Freedomites" to run things for a while, and in so doing go back to medieval times, so that they all might have a better chance to die with small pox or plague. This gain, however, would be too small a recompense to counteract the simultaneous disaster which would attend the great masses of American people in whose minds the great benefits which medical sciences have brought, is so well instilled.—Bulletin Kalamazoo Academy of Medicine.

PAYING THE PRICE.

Every year there is the annual toll of death in athletics. Statisticians seemingly take delight at the close of the year in footing up the number killed or seriously hurt in the various games. But there is another side which is wortny of careful consideration.

Surgeon General Strokes of the United States navy in his annual report just issued gives to the public his findings regarding, not the sudden fatal calamities in the athletic world, but the after effects on the athlete. The figures which he has prepared are significant.

The surgeon general, after a series of letters and other investigations carried on during the year, has prepared data concerning the after life of 625 of the famous athletes in the naval academy between the years 1891 and 1911. Of the list 9 have died and 12 have been discharged for disability. Twenty-one were afflicted with tuberculosis, 8 with mental or nervous diseases resulting in suicide in three cases; 2 with acute alcoholism and 2 with heart disease. All these affections were traced to the strain resulting from track, crew, baseball or football playing, and the preparatory training required. Of the remaining 604 no fewer than 198 are reported to have disabilities or abnormal conditions, which were probably induced or maybe caused by too strenuous exercise on the athletic field.

America is proud of its athletic records and its athletics. It is proud of the records which they have established at home and abroad. But if the records of the after effects of athletic training as carried on in America are the same in other colleges as they are in the naval school, a change is due.—*Battle Creek Enquirer.*

The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

Vol. XI BATTLE CREEK, MICHIGAN, MARCH, 1912 No. 3

ORIGINAL ARTICLES

NITROUS OXID-OXYGEN ANESTHESIA*

RICHARD R. SMITH, M.D., AND REUBEN MAURITS, M.D.
Grand Rapids, Mich.

Nitrous oxid-oxygen has been tried in a number of surgical clinics in this country and, after several years' trial, has been adopted as an advantageous form of anesthesia. In no instance of which we are aware has it entirely replaced ether and chloroform; nor, on the other hand, has it often been given up after a fair trial, though the indications for its use seem to vary considerably with different men. That it is still used, after mature consideration, by a number of our best surgeons would seem to indicate that it possesses real advantages. We may also assume that it has certain disadvantages that in critical minds have led to the adoption of a number of restrictions.

The object of this paper is to present the results of our experience in the 410 cases (132 of which were laparotomies), in which it has been employed; to give our statistics, impressions and methods, and to suggest its trial to those who can obtain a proper person to administer it. We believe that the expert anesthetizer is really the key to the situation and that surgeons who are dependent on inexperienced, uninterested men had better wait until such can be obtained. Close study and experience are necessary to obtain satisfaction. Had we been governed by the results of our first ten or twenty cases, we would certainly have discontinued its use. We were made uneasy by the cyanosis and occasional check in respiration and annoyed by the rigidity and struggling. With further use and with better ideas as to what patients should or should not receive it, it has grown in favor with us and at present we are employing it in something over half of our operations. We have, we believe, fully recognized the disadvantages noted by others. After all, the only one worthy of serious consideration is the rigidity which may so embarrass the surgeon as to more than offset the advantages of lessened toxic effects, nausea, depression and discomfort. The cost of the gas is of no great moment. In 388 cases it has averaged $3.40 per hour — surely but very little when we consider

* This paper was made the subject of the chairman's address before the Gynecological and Obstetrical Section of the Michigan State Medical Society, Sept. 27, 1911.

the total cost of operative work.[1] Excessive bleeding has been spoken of by others; we have had no trouble on this account.

The still rather prevalent idea that the anesthetic is adapted only for short operations is, of course, without foundation and probably arises from the use of nitrous oxid by dentists for teeth extraction. The oxygen in addition gives us a very different agent. In one case we used it for three hours and Dr. Maurits, in another, administered it for three hours and thirty minutes. One and a half to two hours in difficult surgical cases is a common occurrence with us. We have used it for long and short operations alike, but it is markedly more valuable in the former, since in the latter the bad effects of ether are not so great.

The advantage of nitrous oxid-oxygen over ether and chloroform is, generally speaking, its lessened toxic effects. This is shown in the clear mental condition following operation, the distinct lessening of nausea, the quicker regaining of the appetite and the prompter recovery from operation. We have had no toxemias or deaths that could in any way be traced to it. We have had no pneumonias. We have, on a number of occasions, successfully operated on patients extremely ill from prolonged sepsis or other causes that we would have hesitated to operate on with ether.

Some vomiting follows this anesthetic, as with all others, but results have been with us much better than those obtained with ether, much as the latter has been improved. We have kept record of this in 207 cases *covering three days following operation* and including vomiting from whatever cause. Some of them were patients who were vomiting before operation (about 5 per cent.), due to causes for which they were operated.

In 66 per cent. there was no vomiting,[2] 8 per cent. vomited but once, 8 per cent. vomited twice, 5 per cent. vomited three times. In 87 per cent. then there was no vomiting at all or not over three times. Seventy per cent. did not vomit at all during the twenty-four hours following operation.

In 118 cases (not abdominal), 71 per cent. did not vomit at all, 9 per cent. vomited but once, 9 per cent. vomited twice, 5 per cent. vomited three times; 94 per cent. then did not vomit at all or more than three times.

In eighty-nine abdominal sections 57 per cent. did not vomit at all, 6 per cent. vomited once, 11 per cent. vomited twice, 7 per cent. vomited three times; 81 per cent. then did not vomit at all or more than three times.

Patients will, of course, vomit from other causes and when it has been at all prolonged, we have been able in most instances to find a definite reason for it other than the anesthetic. Nausea following operation, however, has materially decreased as a source of suffering. A quicker regaining of the appetite and of the color and strength have been noted, though we have believed it impossible to satisfactorily record such results. Decreased vomiting has resulted in decreased pain following operation. Perhaps because any rough manipulation is apt to be followed by more rigidity and because we have not feared to take a little more time in operation, we have, we believe, been more gentle and this also has seemed to us to

1. It might be well to add that we have had but very few objections on the part of our patients to this additional cost. They have been quick to recognize the advantages—more so than with most of one's innovations. An operation is usually regarded as a most unpleasant experience, as it often is, and they are glad to have anything which will make it less so.

2. Decimals have been omitted in these statistics.

have produced a like effect. Surgeons aspire not only to obtain safety in operative work and perfection in eventual cure, but to make the ordeal of operation as comfortable as possible. The ideal convalescence is one in which there is no nausea, no pain or discomfort, in which the taking of food is not interrupted or the confinement to bed and invalidism prolonged beyond the period necessary to the prompt healing of wounds and the regaining of health lost through the disease for which the operation was done. Surgeons are seldom able to attain such ideals, but nitrous oxid-oxygen has brought us, we believe, a little nearer.

Unfortunately this anesthetic has a limited use. Generally speaking, the anesthetic is not as deep as with ether and, although in the majority of cases the behavior of the patient is as perfect as with the latter, there remain a considerable number in which struggling at the beginning and rigidity throughout are so marked as to offset the advantages. Robust patients, alcoholics and those of extremely sensitive nervous systems we have found are bad, sometimes impossible subjects. Because it raises the blood-pressure, we have not given it to patients where this was very high — say above 160 — or where there was marked arteriosclerosis. We have not used it much with children under 15, though we have had no reason for not doing so.

Nitrous oxid-oxygen receives its most severe test in abdominal operations where relaxation is so essential to good work on the part of the surgeon. It is here especially that we have been very much aided by the use of adjuncts previous to operation. We have used experimentally morphin and atropin, morphin alone, scopolamin-morphin and, more recently, hyoscin and morphin. The last two combinations have served us best. In the short experience we have had, we have noted no difference between the action of hyoscin-morphin and scopolamin-morphin and the former is more convenient, being in reliable tablet form. Scopolamin-morphin we have used with ether (and previous to this with chloroform) for a number of years and have seen no bad results. We believe that if rightly administered it is not a dangerous agent, but really makes surgical work safer.[3] With either of these combinations nitrous oxid-oxygen can be more evenly administered and less of it is required. It is especially useful where there may be struggling or embarrassing rigidity. Our habit is to give hypodermically one-one hundred and fiftieth of a grain of scopolamin (or hyoscin) with one-sixth grain of morphin two hours before operation. The effects are watched and if there is any marked change in pulse and respiration, or the patient becomes very drowsy the dose is not repeated; otherwise, after about an hour a similar amount is given and even a third dose if necessary to produce drowsiness. We do not aim to produce sound sleep. In 288 cases, 15 per cent. received no adjunct, 34 per cent. received one dose, 37 per cent. received two doses. No case of which we have definite record had three. Fourteen per cent. received morphin and atropin.

Before the anesthetic is started a stethoscope is fastened over the apex of the heart with a plaster, and a single tube

3. The precautions in the use of scopolamin-morphin which have been emphasized by myself and others might, in brief, be repeated. It should not be used routinely, but only in selected cases. Old people and children should not receive it. With those markedly cachectic it should be used with caution. I believe it should not be used in emergency work nor outside the hospital, where its administration must be placed in inexperienced hands and the effect upon the patient cannot be closely watched. The anesthetizer should be a capable and experienced man.—R. R. S., Surg., Gynec. and Obst., October, 1908, p. 414.

leads to the ear of the anesthetizer. This enables him to keep in close touch with its action.[4] The anesthetic is begun by the administration of pure nitrous oxid. This continues, generally speaking, for about forty-five seconds. At the first sign of jactitation (which is usually shown by a slight quivering of the upper eyelid), deep cyanosis or rapid deep breathing, oxygen is slowly added and increased to the point where these symptoms are controlled. These symptoms are the result of an accumulation of carbon dioxid and are to be met by the addition of oxygen. This stage is continued to the point of full anesthesia, which is shown by a lack of lid reflexes and slightly stertorous breathing. The whole process takes from two to three and one-half minutes — sometimes a little longer. Deep anesthesia to the point of marked cyanosis and a dilated pupil we consider a disadvantage. It is usually accompanied by bringing into play all the auxiliary muscles of respiration with consequent rigidity. The operation is then begun and as it proceeds less and less nitrous oxid is necessary and more oxygen is added. The amount given will vary much with different patients and the severity of the traumatism produced by the operator. As a rule men require more than women. Weaker patients take it best, as with other anesthetics. It happens, especially in one's earlier experience, that shortly after the beginning of the anesthetic and when the patient is deeply cyanotic, respiration suddenly ceases. The pulse becomes very slow and if oxygen is not added the heart may stop; this is death from simple asphyxiation. We have never seen this happen. A few patients have paused in respiration a half minute or more. With increased experience this phenomenon has become less and less frequent; in fact, we almost never see it at the present time. Certain signs teach one the necessity of adding oxygen. There is usually an increase in the pulse-rate; the respiration becomes more rapid, then deeper and more labored. If one is on his guard, cessation may be avoided by the prompt addition of oxygen. If rigidity is marked, oxygen is added (not nitrous oxid); and if this fails ether is added, as will be described. In weakly patients, especially very anemic ones, cyanosis is seldom apparent and the phenomena of an increased rate in pulse and respiration are sometimes lacking. The latter becomes shallower and shallower and is a warning of impending cessation. It is easily met by the addition of oxygen and the exclusion of nitrous oxid.

As above stated, we add ether with patients showing a rigidity embarrassing to the surgeon. At the point where the abdomen is opened and one is walling off the intestines it may be so troublesome as to make this process prolonged and unsatisfactory. If this happens the operator ceases his work and ether is added to the point of complete relaxation. As a rule after the intestines have been well walled off and the real work begun one may resume the nitrous oxid-oxygen alone. We never hesitate, however, in cases where embarrassing rigidity continues, to complete the operation under ether alone. It is merely a matter of judgment as to when the expected advantage of nitrous oxid-oxygen is offset by rigidity and the ensuing embarrassment to the surgeon. Some anesthetizers add, almost as a rule, ether at the point that we have

4. A record sheet is kept by the anesthetist. We would suggest this as an almost absolute necessity to those who wish to make a close and impartial study of any anesthetic. The sheet records the pulse before and after operation, the behavior of the patient and any unusual occurrence, the nature of the operation, suture material and drainage. Postoperative vomiting is recorded by the anesthetist from the hospital sheets.

indicated, and this we would regard as good practice.

We use a Teter apparatus, which conveniently combines nitrous oxid-oxygen and ether by passing them through a warming attachment before they reach the patient and which, with a little experience, can be rapidly manipulated. This apparatus and the replacements are ridiculously expensive and probably some of the cheaper ones are equally as good.

Rebreathing, which has been rather extensively employed elsewhere, with the idea of reducing the amount of gas, we have made use of to a limited extent. This is done by removing the valve from the nitrous oxid bag and from the cone and inhaler itself, so that the exhaled air passes partially into the bag and partially out through the exhalation valve. This, with the use of adjuncts, has reduced the cost considerably and the results seem to be equally as good.

Experience with this anesthetic means increasing smoothness. To give it well one must be truly interested in his work and must carefully study every phase of it. The skilled anesthetizer learns to regulate the anesthetic to the needs of the operator. He is constantly endeavoring to keep the patient just at the stage which is necessary to satisfactory work on the part of the surgeon.

DISCUSSION

Dr. Hawkin: Can rebreathing be successfully used in tonsil work?

Dr. Richard R. Smith: We have not used nitrous oxid-oxygen very much in tonsil work; in fact, in any work about the throat and head. In some subjects that are rather frail it can be employed, but, generally speaking, we have not found it very satisfactory. The anesthetic requires the almost constant presence of the cone, and we found they come out from under it so rapidly as to interfere with the operation. I think the same thing would apply when rebreathing is practiced. We have not found it satisfactory, but others may have found it so; I do not know.

ADENECTOMY

C. B. Younger, Chicago (*Journal A. M. A.*, January 13), says that while there is hardly any abnormal condition of childhood that has received as much public attention as adenoids and few, if any, that have given more satisfactory results from operation, he still thinks that there are some cases where the operation has been unnecessarily performed and that there is sometimes a tendency to careless diagnosis of these cases. There are other obstructions of breathing, that will cause the adenoid facies, such as hypertrophic rhinitis, which is quite as prevalent in childhood as at any other time of life. A high arched palate and protruding front teeth, a very large hypertrophy of the faucial tonsils, or a slight anterior deviation of the spine protruding on the nasopharyngeal space have also been known to cause the symptom-complex of adenoids. Little or no disturbance of nasal breathing may occur from fair-sized adenoid growth in a spacious nasopharynx, and operation may hardly be required. His paper is a plea for such cases as these and for a careful diagnosis of every individual case to determine whether operation is needed. Indiscriminate operation in this class of cases is objectionable, in view of our limited knowledge of the physiology of these tonsillar structures.

PHYSOSTIGMIN COMBINED WITH MORPHIN IN THE TREATMENT OF PAIN FOLLOWING ABDOMINAL OPERATIONS

Preliminary Report*

BENJAMIN R. SCHENCK, A.B., M.D.
Detroit

Concerning most of the points in the treatment of patients who have undergone an abdominal operation, there is, at the present time, a very considerable unanimity of opinion. Such is not the case, however, concerning the administration of analgesics. One finds in the different clinics and in the work of different surgeons marked variations in the treatment of abdominal pain, from which, in some degree, practically all patients suffer.

There can, of course, be no denial of the statement that no drug is as efficacious as morphin for the relief of pain, yet the extent to which it is used following laparotomy differs widely. On the one hand there are surgeons who never employ opium; on the other, those who administer it, almost if not entirely, ad libitum. Probably the majority use the drug sparingly, relying on two, or at most three doses during the first twenty-four hours, later substituting codein or heroin.

Were it not for the fact that morphin inhibits peristalsis and thus predisposes to meteorism, and to the additional fact that nausea and vomiting are prolonged when the drug is freely given, it would be universally used in sufficient quantities to insure comfort to the patient. Could we combine with the morphin some drug which would completely antagonize the paralytic effect on the intestine, an ideal analgesic would result. I believe that we have, to some extent at least, such a drug in the active principle of calabar bean, namely, physostigmin or eserin. That physostigmin completely fulfils the condition is probably not true, but I feel quite sure that combining physostigmin with morphin lessens to a considerable degree the objectionable effects of morphin when used alone.

The hypodermatic administration of eserin for its effect on the intestinal wall is, of course, not new. von Noorden, in 1901, seems to have been the first to recommend it for this purpose. Mozskowicz, Arndt and Maragliano were among the first to use the drug in the treatment of postoperative intestinal paralysis, and its trial in cases of meteorism has become quite general. Its value, once distention has occurred, is questionable, even in proper cases. It is not only valueless, but positively harmful in those instances of ileus due to peritonitis or to mechanical causes.

In 1904 appeared an article by Vogel of Bonn, in which he stated that for three years he had been using eserin as a prophylactic for postoperative distention. He employed doses of 0.0005 gm., three or four times during the first day, giving the initial dose before the patient leaves the operating table. In this country Craig of Boston has given this prophylactic use most careful trial and his three articles on the subject are both thorough and enthusiastic. Elsberg in 1906 and Vine-

* Read at the Forty-Sixth Annual Meeting of the Michigan State Medical Society, Detroit, Sept. 27-28, 1911.

berg in the same year began its prophylactic use at the Mt. Sinai Hospital and the latter reported favorably for both.

Since then physostigmin has been used quite extensively, more, however, after the distention has occurred than as a routine prophylactic. Judging from the literature and from conversations with those who have tried the drug to relieve meteorism, I would say that thus used it has not found very great favor.

It seems to be well established, theoretically at least, that eserin in therapeutic doses produces a stimulating effect on the intestinal musculature. This it probably does in two ways: (1) by depressing the spinal reflex, thus lessening the splanchnic inhibition, and (2) by its selective action on the muscle of the intestine, similar to its action on the ciliary muscle of the eye. Whether this action on the intestine is directly on the muscle fiber or on the nerve terminals is not known and, as Craig says, does not affect our purpose. Medicinal doses affect the circulatory system but little, causing, if anything, a rise of blood-pressure and a slowing of the pulse. It does not affect the respiration and acts as a mild nervous sedative. The sulphate of physostigmin being very deliquescent, the salicylate should always be used.

In doses of one-seventy-fifth grain there is no danger of poisoning. Stevens reports the case of a woman who received by mistake soon after an operation for double pyosalpinx, a hypodermic dose of 2 grains of eserin sulphate. Within two or three minutes the bowels moved profusely and involuntarily. The respirations became shallow and the pulse imperceptible. She remained unconscious for twelve hours but recovered with no ill effects. This in spite of the enormous dose received.

The action of atropin and physostigmin are entirely antagonistic except for the fact that both stimulate intestinal peristalsis. Atropin is, therefore, the antidote in eserin poisoning.

Craig found that after using eserin "morphin was rarely needed or required, except for distinctly extra-abdominal pain, but when so demanded either morphin or codein can be given with greater freedom, as there is less danger of obnoxious constipation after its use."

Following this hint I had made in 1907 hypodermatic tablets containing one-sixth grain morphin and one-seventy-fifth grain physostigmin. These were used in selected cases for six months with satisfactory results, but the tablets were not properly protected from the light and air and when they turned brown were discarded.

This spring following a conversation on the subject with Dr. E. M. Houghton, of the Research Department of Parke, Davis and Company, similar tablets were prepared, and I have used them in all cases where intestinal rest was not desired and where there was no danger of masking important symptoms. The cases, numbering fifteen, are all comparatively simple ones, as I have been careful not to use the eserin when there was infection, intestinal injury or other complication.

Case 1.—Mrs. B., hysterectomy for multiple fibroids. Three doses of combination tablet during the first thirty-six hours; one dose of 1 grain of codein. Pain controlled perfectly. Abdomen flat and soft. Small movement of the bowels on the third day, following simple enema. Salt solution, 1 pint, per rectum. Urine, 600 c.c. during first twenty-four hours.

Case 2.—L. S., interval appendectomy. One hypodermic of the combination tablet and one of codein. Expelled gas, sixth hour. Bowels moved well on fourth day after simple enema. Urine, 390 c.c. during first twenty-four hours. Vomited but once on coming out of the anesthetic.

Case 3.—Mrs. H., hysterectomy for large multiple fibroids. This patient was a Christian Scientist and would not admit that there was any pain. However, one combination tablet and 1 grain of codein were given. Aloes, belladonna and strychnin pill on the third night. Bowels moved well on fourth day. Abdomen flat and soft throughout.

Case 4.—Mrs. S., amputation of the cervix, repair of the perineum and fixation of the uterus for complete prolapsus. Despite three combination tablets during the first twenty-four hours, suffered considerable pain. There was no distention and gas was expelled after the second dose. Salt solution per rectum twice. Urine, 630 c.c. in the first twenty-four hours. Bowels moved on the fourth day following enema.

Case 5.—Mrs. B., repair of the perineum by the Anspach method and Coffey operation on the round ligaments. One combination tablet when coming out of ether. Very little pain thereafter. Slight distention on the morning of the second day, relieved by enema. Slight bowel movement with enema on the second day. Aloes, belladonna and strychnin pill on the evening of the fourth day and large movement on the fifth day. Urine, 450 c.c. during the first twenty-four hours.

Case 6.—Mrs. G., hystero-salpingo-oöphorectomy for old inflammatory disease. Three combination tablets and two doses of codein were given during the first thirty-six hours. Gas expelled on the evening of the first day. No distention. Enema on the fourth day caused satisfactory movement.

Case 7.—Mrs. B., double salpingo-oöphorectomy for dense adhesions causing severe dysmenorrhea. Four combination tablets during the first thirty-six hours. These controlled the pain, which was apparently more severe than usual. There was no distention and the bowels moved freely after suppository on the third day.

Case 8.—Mrs. L., repair of the perineum and Gilliam operation. Two combination tablets and two doses of codein. Abdomen flat and soft. Slight intestinal cramps on the afternoon of the second day. Enema in the evening caused slight movement and gas. No further distress.

Case 9.—Mrs. B., salpingo-oöphoro-cystectomy for ovarian cyst. One combination tablet. There was no pain after the first six hours. No distention. Bowels moved on the fourth day without enema.

Case 10.—Miss C., interval appendectomy. Patient nervous and hypersensitive. Two combination tablets. Gas expelled evening of the first day. There was no distention and no cramps until the fifth day after full diet had been resumed.

Case 11.—Mrs. E., repair of perineum by the Anspach operation and Coffey operation on the round ligaments. Two combination tablets relieved the pain during the first twenty-four hours. Gas expelled on the second day. No distention. Bowels moved well on the fourth day after a simple enema. Urine, 420 c.c. in the first twenty-four hours.

Case 12.—Mrs. W., repair of the perineum, Gilliam operation and appendectomy. Three combination tablets in the first twenty-four hours. Abdomen flat and soft. Bowels moved on the fourth day after aloes, belladonna and strychnin pill.

Case 13.—Mrs. B., abdominal hysterectomy for carcinoma of the cervix. Three combination tablets and one dose of codein in the first twenty-four hours. Gas expelled freely after eight hours. Bowels moved slightly on third day after enema.

Case 14.—Mrs. D., repair of the perineum and Gilliam operation. Patient was inclined to be hysterical and the combination tablets did not appear to relieve the pain. However, a single hypodermic of plain morphin acted no better. There was no distention. The abdomen remained soft and flat and bowels moved on the fourth day without enema.

Case 15.—Mrs. S., hysterectomy for carcinoma of the fundus uteri. Three combination tablets relieved the pain perfectly. Gas was expelled in sixteen hours and the bowels moved well on the fourth day. Salt solution, 1 pint, per rectum. Urine, 480 c.c. in first twenty-four hours.

Since using this combination tablet I have not had an instance of distention even in the slightest degree, except in cases in which but one dose was given. In this case the distention was very moderate and was readily relieved by a simple enema.

The use of laxatives, other than a very mild pill on the fourth or fifth day, has

been discontinued and I am certain that the patients have suffered less than formerly. There is no longer the discomfort of the dreaded "third day." The nurses whom I have questioned in every case have said that the tablet has relieved pain as well as plain morphin and have been impressed by the absence of intestinal cramps.

There is nothing original in this treatment, except the combination of the morphin and physostigmin in one tablet. The cases are too few in number to warrant any general conclusions, beyond the point that thus far these tablets have given excellent satisfaction and deserve an extended trial.

32 Adams Avenue, W.

DISCUSSION

Dr. W. P. Manton, Detroit: I have listened to Dr. Schenck's paper with a good deal of interest, and I have used more or less extensively both morphin and physostigmin, but not the combination in the way he describes. It seems to me that in this present day and generation the use of morphin should be very largely done away with. If we prepare our patients properly for an abdominal operation, which, of course, is possible only when we have a patient in time to prepare it, it seems to me that we should have little or no abdominal distention from accumulation of gases. For probably more than twenty years I was in the habit of giving laxatives and cathartics the night before abdominal section, and during all that time I had frequent cases of abdominal distention, sometimes extreme distention. I recall one case where there was no ileus, no adhesions, no trouble as far as the intestine itself was concerned, the condition being purely a nervous phenomena, and yet it took a week to get that woman's abdomen flat. For the last few years—six or eight years—I have given up entirely the use of laxatives before abdominal operations, and as a result I have rarely had a case of extreme distention. In certain cases I have employed physostigmin in a majority of instances with good results, but I have never given it in large doses. I find that if it is possible to do an abdominal operation with little handling of the bowels and with a small incision the patient has comparatively little after-suffering. For a number of years, possibly twenty years, instead of morphin, I have used codein phosphate almost ad libitum, and I find that the small amount of pain and irritation resulting from the inflammation about the incision in healing are controlled by the codein as well as the nervous symptoms, so that nowadays I very rarely give a dose of morphin. Now I use morphin in a routine way only in operations on hemorrhoidal tumors and rectal disorders. I have no doubt at all that the combination of morphin and physostigmin is a good one if morphin must be used in these abdominal cases, but I think that morphin can, in a majority of instances, be omitted. At Harper Hospital, if I happen to have an excited, noisy patient who disturbs others, I give morphin to quiet. I had a patient there recently who did not like the food and threw it on the floor. In order to make her feel more comfortable I gave her a dose of morphin, with good results.

Dr. John E. Bell, Detroit: I would like to ask Dr. Schenck to tell us whether or not his use of the physostigmin and morphin has relieved the tendency to nausea which is so distressing after using morphin alone. I have used phosphate of codeia, spoken of by Dr. Manton, for some years, and it has been my experience that not infrequently, although I have given 2- and 2½-grain doses, I have still been forced to resort to morphin to relieve pain.

Dr. E. M. Houghton, Detroit: It is with considerable interest that I remember Dr. Schenck's use of a combination of physostigmin and morphin for after-abdominal operations. It is recognized that morphin is the drug par excellence for controlling pain. It is open to the objection that whether given internally or subcutaneously it is excreted back into the bowel in a few minutes and a lessened peristalsis results in the same way as when the drug is directly applied to the walls of the intestine or when the nerves are cut. Morphin controls the pain largely because of the central action of the drug, and it seems to me that Dr. Schenck's idea that it would be wise to use physostigmin in combination with morphin rests on a pretty good basis. In physostigmin you have something that stimulates

the muscle in the wall of the intestine to contract. A good many experiments have been made to show whether physostigmin acts on the muscle fibers or on the nervous mechanism in the muscles, but so far no one has been able to pin the matter down exactly. It would seem that physostigmin throws off the brake, as it were, that is put on by the morphin, and allows the intestine to resume its normal function in these cases.

The point raised is an extremely interesting one, and I believe one well worthy of some careful experimentation at the bedside, as well as in the laboratory. So far as I am aware, no one has carried out any laboratory experiments to show just how the two drugs interact.

Dr. Richard Smith, Grand Rapids: I believe Dr. Schenck's paper contains a valuable suggestion and I am going to try it. I think, however, that we should put this drug, or any treatment for postoperative pain, in its proper place. For years we talked about the "treatment" of postoperative vomiting, and all kinds of things were suggested for the relief of this very distressing symptom, but no real progress was ever made until we began to withdraw the anesthetic. The treatment of postoperative vomiting is on the table—I mean the giving of just as little anesthetic as is consistent with good work on the part of the surgeon. So it is with these matters of postoperative pain, postoperative ileus, postoperative distention. The treatment takes place on the table and means a brief and gentle manipulation. When surgeons everywhere work with this clearly in view real progress in this matter of postoperative pain will be made. Of course, there are many cases in which more or less roughness is perhaps necessary—considerable traumatism on account of the pathologic condition to be dealt with—but one must ever bear in mind that this is the exception and not the rule. Personally, I have given up the use of morphin almost entirely after operation and rely, as Dr. Manton has, on codein, and with very excellent results.

Dr. Schenck, Detroit (closing): I quite agree with what the chairman of the section has said, that the cause of postoperative distention and postoperative discomfort is not to be sought in how you prepare the patient or how you treat her afterward, but how you treat her on the table; but even though you treat her with the greatest respect, she is going to have some discomfort. I am not speaking entirely of abdominal pain, but of backache and all other pains which are suffered by patients who have undergone laparotomies. I agree with everything Dr. Manton has said; in fact, no one has been more afraid of morphin after operation than I have. I have not used it for five or six years, other than possibly one dose in the first twenty-four hours, and then only one-eighth or one-tenth of a grain. Codein is not so good an analgesic as morphin. You can give it in grain doses, but it does not relieve the pain like morphin. If we have something that will take away a large part of the objection to morphin, and it will still relieve the pain as well as plain morphin, it is possible that we have something that can be used more or less routinely, just as we use atropin in tablets.

Regarding the nausea, although I have given three- or four-sixths of morphin combined with physostigmin the first twenty-four hours, I certainly think the nausea has not been any greater, but perhaps less than previously.

There are, however, so many factors which enter into a consideration of this kind that it is difficult to come to definite conclusions. This report is merely a preliminary one. The tablets must be used in many more cases before we shall know their exact value.

Pernicious Anemia Causing Spinal Cord Changes and a Mental State Resembling Paresis

Carl D. Camp, Ann Arbor, Mich., details a case in which changes in the mental state and temper and a spastic and ataxic gait were coincident with lessened hemoglobin and increased leukocytosis. There were no evidences of true ataxia. The examinations pointed to lesions in the posterior and lateral columns of the cord. It has been shown that pernicious anemia may cause changes in the central nervous system. In these cases there are delusions, mental exaltation, and grandiose ideas. The mental state closely resembles that of paresis.—*Medical Record*, Jan. 27, 1912.

COLOPTOTIC CONSTIPATION *

LOUIS J. HIRSCHMAN, M.D.
Detroit

In dealing with the subject of constipation one enters a field so vast that in order to do justice to the subject one can hope to cover but a small fraction of the classes of cases in which constipation is the principal symptom. One writer has stated that 50 per cent. of all men and 100 per cent. of the women are constipated. While this is undoubtedly an exaggeration and a calumny on the race, nevertheless the number of patients suffering from constipation of some form or other is so large as to make it by far the most prevalent of pathologic conditions.

When one looks at constipation in its broadest meaning, that of pathologic interference with the regularity and amount of intestinal excretion, then one must immediately divide the disease into two great classes — the one class being due to a lack of functional activity — due to dietetic error, improper habit, neural or trophic influences. The other class, which some of us have been pleased to designate as obstipation, includes all cases whose impaired activity is due to mechanical interference with the normal peristaltic movements and expulsive function of the bowel.

I intend to devote myself to a brief discussion of the second class, that of obstipation or obstructive or mechanical constipation, especially in its relation to enteroptosis.

Mechanical or obstructive constipation may be caused by: (1) the presence of any foreign body, occlusion, contracture, spasm, local lesion, hypertrophy or accumulation in the intestinal canal; (2) displacements, acute angulations, distentions, neoplasms, adhesions or compressions of the bowel; (3) developmental defects and congenital deviations from the normal.

In the first class may be mentioned the presence of any swallowed object which has become lodged in some portion of the intestinal tract, fecal impaction, enteroliths, concretions, stricture, hypertrophied valves or O'Biern's sphincter, hypertrophied sphincter ani, fissure, ulcer, acute angulations of any of the normal fixed points of the colon, stenosis of the ileocecal valve, invaginations or prolapse.

In the second class should be placed ptosis of the cecum, sigmoid, or any other portion of the colon, acute angulation of the sigmoid on the rectum, or at any of the fixed points of the colon, dilatation of the colon (congenital or acquired), carcinoma, hemorrhoids and polypi, pelvic or abdominal adhesions, lacerated perineum, rectocele, malformations of the bony pelvis, including ankylosis of the coccyx.

In the third class should be included congenital absence of the anus, anal canal or rectum, as well as any other anomaly which is congenital in origin.

While I well realize that the above classification is far from complete and satisfactory, nevertheless it will serve our purpose in connection with the discussion of the treatment of the various conditions which are responsible for obstipation or mechanical constipation. To attempt to go into a detailed discussion of the oper-

* Read at the Forty-Sixth Annual Meeting of the Michigan State Medical Society, Detroit, Sept. 27-28, 1911.

ative technic for the relief of all of the conditions which are responsible for mechanical obstruction of the normal fecal current would require several volumes. I therefore propose to rest satisfied with the mere mention of many of those conditions whose treatment is obvious, such as local rectal diseases, the presence of foreign bodies, strictures, impactions, etc., and limit myself to a discussion of that common form of obstipation which is occupying so much attention in the minds of internists, gynecologists and general surgeons, as well as proctologists — so-called constipation due to enteroptosis.

I firmly believe that next to the examination of the colon by means of percussion and sigmoidoscopy, the greatest advance in diagnostic work was made when the radiographer entered this field. Our whole conception of the etiology and treatment of constipation, particularly in the female, has undergone a complete change. It has certainly opened a field for surgical cure whose possibilities are only limited by the ability of the surgeon to carry out the indicated measures for relief.

It is a far cry from the simplest surgical procedure for the treatment of constipation, namely, divulsion of the sphincter, to the extirpation of the entire colon, the extreme measure advocated by Lane. But between these two procedures lie many middle ground operative measures which have proved entirely successful in the permanent cure of mechanical constipation.

Radiographic studies have shown us that many patients with supposedly ptotic colons are not troubled with constipation, and that many constipated individuals do not have ptotic colons. In the latter class, however, the cause is usually found in the rectum and the treatment is correspondingly easy. In those patients in whom the *x*-ray shows marked coloptosis, but whose defecations are normal, we know that the musculature of the bowel is sufficiently powerful to overcome the mechanical displacement.

It is in those cases, however, where ptosis is accompanied by atony, adhesions, or other interference with the peristaltic motion that the displacement becomes an all-important factor.

Ptosis of the cecum is rather more common than we formerly thought. It is surprising how often the cecum, overloaded and distended, is found low in the pelvis rotated, and often adherent there. Many constipated cases who have had sensitiveness in the right iliac region have been operated for chronic appendicitis and after the operation have had the same old symptoms. A second operation in some of these cases has revealed the presence either of a ptotic cecum or stenosis of the ileocecal valve, which conditions, when corrected, either by anchoring of the cecum to the posterior or lateral abdominal wall, or ileocecoplasty, has given the patient complete relief.

When one considers the location of the cecum, how it forms an elongated pouch below the ileocecal juncture, it is not surprising that it very often becomes a cesspool from which absorption takes place readily and which becomes distended, elongated, prolapsed and rotated by the weight which its overloaded condition creates.

The ascending colon rarely gives any trouble, but the hepatic flexure is often accentuated by the drag of an overloaded cecum and transverse colon, and occasionally becomes occluded or partially so by adhesions caused by the extension of hepatic or gall-bladder diseases. The transverse colon may prolapse so far that it rests beneath the pubes, but if it is not

adherent or imprisoned it may empty itself in some instances and not be considered abnormal. In many cases, however, radiography of the part with the patient in the Trendelenburg position has shown us that the bowel is firmly held in the pelvis by adhesions, and does not rise out when the patient is in the recumbent position, it being well known that there is a motility of 4 or 5 inches in normal individuals. The normal angulation of the splenic flexure becomes acutely exaggerated from the drag of an overloaded sigmoid added to that of the transverse colon. It is in the sigmoid flexure, however, where a great many of our worst cases of constipation find their expression. The sigmoidal loops become greatly enlarged and occupy the right side of the pelvis in many instances; not infrequently the sigmoid overlies the cecum and had been found in some of my cases to be adherent to it. Ptosis of the sigmoid, with its accompanying acute angulation of the rectosigmoidal juncture, as well as invagination, are responsible for a larger percentage of coloptotic constipation than any other one factor.

In the treatment of constipation due to coloptosis, the disappointing results following the immobile fixation of the various portions of the colon to the abdominal wall have been caused by the fact that the large areas of adhesion necessary for fixation have seriously interfered with the contraction of the muscular fibers of the colon and have accentuated, instead of relieving, the atony already present. It is one thing to put a bowel in its normal geographical location, but another thing to make it work after it is put there. The extirpation of the colon, as advocated by Lane, and by him only in extreme cases, by its terrible mortality is almost prohibitive in those cases where it might seem indicated. Large lateral anastomoses between adjacent dependent limbs of the colon, combined with plication or tucking in of the elongated mesentery, to my mind is the indicated procedure in many coloptotic cases.

Where one is able to remedy defects in the position of an organ by using its natural support for the correction of the abnormality it is far better for the future functional result than to cause the formation of adhesions in an unnatural site. In ptosis or invagination of the sigmoid, as I have pointed out in previous communications to the American Proctologic Society and the American Medical Association, the natural position of the sigmoid can best be restored by shortening the mesosigmoid. This brings the sigmoid back into its natural position without causing any adhesion to the parietal peritoneal walls, and there is no chance of forming any new angulations such as have been known to follow the operation of colopexy. Mesosigmoidopexy should be the operation of choice in those cases of sigmoidal ptosis which cause the constipation in women following hysterectomy.

It is obvious that in those cases of constipation in patients giving a history of previous peritoneal inflammation or abdominal operation, where radiography shows the colon bound down by adhesions, that the liberation of these adhesions and replacement of the colon is the logical surgical procedure. In the prevention of the reformation of adhesions the covering of the surfaces with aristol, Cargile membrane, sterile oil or fat, the frequent changing of the patient's position and the subcutaneous use of physostigmin are all measures which have their value. The administration of enemas just before operation and the use of alum enemas afterward are also of considerable value as a prophylactic against new adhesions. It must be confessed, however, that an ideal

method for the prevention of postoperative adhesions is still to be discovered in the future. In those cases where adhesions persist in reforming in spite of one's best endeavors, the operation of ileo-sigmoidostomy may become necessary. This has been found by some surgeons to be unsatisfactory on account of the liquid character and frequency of the subsequent evacuations, but in the author's hands has been very efficacious. This annoyance can be avoided, however, by bringing the ptotic transverse colon across and making a lateral anastomosis with the sigmoid flexure, using the most dependent portion of the transverse colon for the purpose.

Some cases of ptosis and distention of the sigmoid and more rarely the transverse and ascending colon are secondary to obstipation caused by mechanical obstruction in the rectal region. The principal causes here being hypertrophied rectal valves, acute angulation of recto-sigmoidal juncture, or prolapse of the anus, rectum or sigmoid. The local relief of these conditions by valvotomy, mesosigmoidopexy or excision of prolapsed mucous membrane followed by daily rectal and sigmoidal massage by means of the author's pneumatic rectal massage bag will give prompt and lasting relief.

Before closing I wish to show a few lantern slides which will demonstrate the necessity of checking up the clinical diagnosis by means of radiographs of the colon. Whether the patient gives a history of previous pelvic disease or laparotomy or not, I am convinced that the radiograph is an indispensable diagnostic aid.

In conclusion I would urge that in all cases of constipation whether the radiograph shows them to be coloptotic or not, one should give the patient the benefit of the doubt and use every approved method of treatment, whether dietary, physical, mechanical or medicinal, before resorting to surgery for its relief. When other methods have failed and the case proves to be coloptotic constipation, then, whether the operation be a mesenteric suspension, a plication or an anastomosis, the use of mechanical measures as well as the outlining of a proper dietary and a regulation of the patient's habits should constitute just as important an element in the treatment of the case as the operation.

604 Washington Arcade.

DISCUSSION

Dr. P. M. Hickey, Detroit: I am very much interested in this work which Dr. Hirschman has put out in the diagnosis of these malpositions of the colon and the consequent trouble. From the fact, however, that about every fifth individual is born with a ptosis, it seems to me that our treatment should begin very early. I think the schools should take up the matter of correct position. Pupils should not be allowed to go around with the shoulder blades prominent and shoulders forward and the abdomen totally limp, but they should be taught the military exercises, and setting-up drill to bring them up in shape and accentuate the development of the abdominal muscles, and then this condition would not be present in the later life and there would not be as many neurasthenics.

Dr. Samuel G. Gant, New York: For years I have called attention to the frequency of mechanical constipation and the good results attainable by surgery in these cases. There are three distinct types of constipation: the *atonic, spastic* and *mechanical.* The *first* is improved by general and local therapeutic measures which will strengthen the intestinal musculature. The *second,* due to enterospasm by the application of heat and the administration of belladonna alone or in combination with opium which favor relaxation of the bowel, and the *third* or mechanical constipation can be overcome by correcting an invagination, twist or ptosis of the gut or by removing a tumor, breaking up adhesions or by taking care of any lesion which interrupts peristalsis or blocks the intestine.

I have performed colopexy and sigmoidopexy about 200 times, and the operation has been successful in more than 80 per cent. of the cases. In some instances constipation immediately ceased, but in others physical measures were necessary following operation to tone up the partially paralyzed bowel. Postoperative complications have not arisen except in one or two cases, and in my hands anchoring of the bowel to the abdominal wall has given better results than shortening of the mesentery advocated by Dr. Hirschman. Our difficulty in this class of cases is the colitis, which nearly always complicates them and which requires simultaneous treatment.

I have not time to discuss valvotomy or Lane's excision of the colon, procedures which give good results in properly selected cases. Divulsion of the sphincter for the relief of constipation is justifiable when it is tightly contracted or the patient has fissure, but does no good and much harm under other circumstances and should be condemned as a routine measure.

Many patients suffer from pseudocostiveness and believe they are constipated simply because the fecal bolus is not exactly right in color, shape, consistance or size. Such individuals must be taught that the amount and color of feces voided varies according to the quantity and quality of food consumed and practical suggestions should be made which would help to overcome their abnormal mental state.

I desire to thank Dr. Hirschman for presenting this timely subject in such a concise and practical manner.

Dr. Merriman: In addition to what Dr. Hickey has said regarding teaching children to do something besides arithmetic, I believe that one of the ways to stimulate a normal contraction of the abdominal wall is, for instance, instead of stuffing in to their heads all that is in their books, to have them carry a book, or something else, on top of their head. That brings the abdominal wall into action, straightens up their body and assists in bracing the colon and cecum. Where I treat obstinate cases, I find that giving large amounts of water just shortly before eating, and obliging them to eat slowly and, where that does not relieve them, to give them a certain amount of massage, seems to give my patients the best results.

Dr. L. J. Hirschman (closing): I want to express my acknowledgment to Dr. Hickey for his excellent work in making those plates for me, and will attempt to answer the questions as asked.

The way we have been injecting the bismuth is by putting the patient in the knee-chest position and giving the bismuth by enema, using bismuth and water, and it goes up into the cecum inside of five, six or eight minutes without any trouble. After the knee-chest position, have the patient lie on his left side, abdomen, right side, and then sit up, and you can feel the gurgling of the water as it goes up. There is no need of attempting to give the so-called high enema—there is no such a thing. Put your enema tube inside of the sphincter, and it will be carried up in a few minutes.

I think Dr. Gant touches the keynote of the paper in emphasizing the statement, which I was careful to emphasize, that it is coloptosis plus the atony which is responsible for these so-called coloptotic constipation cases. I have known patients to have coloptosis and no constipation, and also patients with constipation and no coloptosis, but where you get coloptosis plus atony you have got to cure the coloptosis before you can the atony. You have got to keep up the dietetic, physical, mechanical, psychical and all other methods in order to carry on the work you have just started by your operation. We should use the *x*-ray as a diagnostic measure, and should not be led astray by what we find, but follow the different conditions we have, but where we have coloptosis we should be sure that *that* is the factor. Where we find the ptotic colon there are other things to be considered We usually find that there must be *atony present plus ptosis* in order to get constipation, and the relief is not always surgical; but when we do find a condition that needs surgical relief we must go right at it and not fool with drugs or cathartics or anything else.

FEVER OF THE NEW-BORN*

EUGENE BOISE, M.D.
Grand Rapids, Mich.

Mrs. W. went to the maternity cottage of Butterworth Hospital at about 8:30 a. m., July 3, 1911. She was apparently in perfect health. Her temperature on arrival was 98.8°. The kidneys were acting normally and examination of the urine showed it to be free from albumen. She was delivered at about 4 p. m. of the same day of a baby well formed and apparently perfectly normal in every respect. The labor, while severe, was normal, without forceps. Two hours after delivery the mother's temperature was 100.6° and the baby's 100.4°. From this time the mother's temperature gradually fell so that twelve hours after delivery it was 98.4°. But the baby's temperature gradually rose. At twenty-four hours after delivery it was 101.8°. At thirty-six hours it was 102.4°. Baths were then given and the temperature fell to 101.2°, forty-eight hours after delivery, but on withholding the baths the temperature rose, so that sixty hours after delivery it was 104°. From this time it gradually fell. At three days after delivery it was only 98.8° and soon reached normal.

This represents the most benign type of fever of the new-born.

There is another type that begins later — is more prolonged, and much more serious, inasmuch as it is an expression of a septic condition. From a pathologic standpoint this may be divided into two classes; first, where the child is septic when born, because of a septic condition of the mother's blood; and, second, where the child becomes septic from absorption through some unprotected channel — in the great majority of cases, through the umbilicus.

In a discussion of these fevers of the new-born, two questions suggest themselves: first, what is their cause, and second, can anything be done to prevent them? And these lead naturally to an inquiry as to what fever is, how it is produced and what is its significance.

Krehl says:

> Fever is characterized by an increase in the temperature of the body, and by certain changes in the metabolic processes. . . . An increased production of heat within the body through excessive chemical decomposition, may cause a rise in temperature. Therefore muscular exertion, which causes such chemical decomposition, even if not severe, may raise the temperature of the body.

In fever there is generally a disproportion in the ratio of heat production and heat loss, but (as Krehl says) "normally the body can dispose of much larger amounts of heat than are liberated within it during fever. So that the cause of the high temperature in fever cannot be an increased production of heat alone." There is, in a normal individual, a heat-regulating mechanism which controls or coordinates the heat production and the heat loss, and it would seem probable that in fever this nervous mechanism is disturbed or diseased, so that while there is an increased production of heat, there is, at the same time a decrease in the heat loss, so that the characteristic high temperature of fever results.

"Fever may be produced by various causes, chief among which is the entrance into the blood of living or dead bacteria or of their products, yet the mere presence

* Read at the Forty-Sixth Annual Meeting of the Michigan State Medical Society, Detroit, Sept. 27-28, 1911.

of microorganisms in the circulation does not necessarily raise the temperature of the body." For instance, an animal may die from an infection and its heat production may be markedly increased, and yet, on account of the corresponding increase in heat loss, there may be no rise of temperature. . . . Though bacteria and bacterial products are undoubtedly the most important causes of fever, they are not the only ones. Fever may be produced by the destruction of larger numbers of cells in the body, even though microorganisms play no part in the destructive processes. For instance, the fever that so often follows simple fractures or large interstitial hemorrhages, or severe and prolonged muscular exertion. Krehl raises the question whether it is not possible that a single chemical substance or class of substances is the cause of all fevers.

Some have thought (incorrectly) that the fibrin-ferment might play such a rôle. At any rate, the proteid decomposition during fevers pursues a peculiar course, and the hypothesis that the products of this abnormal decomposition directly cause the fever is an exceedingly attractive one.

In the case quoted at the beginning of this paper, in seeking for the cause of the fever which manifested itself at or soon after birth, sepsis must be excluded. The mother was in perfect health. The child was normal, the placenta showed no signs of disease, and the cord was free from all signs of infection. Moreover, the onset of the fever, practically at birth, and the short duration, precluded the possibility of sepsis. Nor could there be any gastrointestinal fermentation before birth. But, inasmuch as muscular exertion is a well-recognized cause of increased temperature through induction of chemical or metabolic changes, it is more than probable that the fever which manifested itself so early was due to the mother's blood, contaminated as it was by the products of severe muscular exertion, acting on the heat-regulating center of the child. The fever thus produced was interesting from a clinical point of view, but yielded readily to elimination and to the antitoxic power of the normal blood.

But the septic fever of the new-born caused by infection of the cord or at the umbilicus is much more serious. It is not infrequent but is often unrecognized.

Williams says:

> It may be stated, as a general rule, that whenever children die, without any appreciable cause within a few weeks after birth, such an infection should be suspected.

There are various views as to the pathology and history of the disease, as also as to its frequency. For instance, Dickinson says that the ratio of septic deaths to early deaths from all causes varies between 15 and 40 per cent.

Hirschfeld says that in sixty autopsies with septic infection emanating from the navel, he found arteritis alone thirty-two times, phlebitis eleven times. The two together three times and venous thrombi four times. He thinks the umbilical vein the "port of entry" of the virus.

Runge states that the lymphatics are the path of infection. He does not think it possible to diagnose arteritis during life.

Furth saw, in four years, 308 cases of arteritis umbilicalis of which fifty-eight died. It never occurred before the separation of the cord. He says nearly all the authorities regard the processes as beginning in the perivascular tissue.

The causes of phlebitis are the same as those of arteritis. The disease may be consecutive to inflammation of perivascular tissue.

In contradistinction from arteritis, sepsis and pyemia readily occur. It also

occurs after separation of the cord. Recovery occurs in the mildest cases only.

Miller reports (in 1888) that in Moscow Foundling Asylum, with the best precautions, there are yearly from 500 to 900 deaths from pyemic processes, and that there is hardly any doubt that the preponderating cause is umbilical infection.

Most of the sepsis dates from the first week of life. In cases in which death from sepsis takes place in the first three days of life, the disease must have had a prenatal origin.

Eross says that as a general truth fever is the safest, and often the sole symptom of infection.

Ehrendorfer (1892) says the same.

Ahlfeld (1894) says that asepsis of the umbilical cord is a failure. Suppuration of the umbilical cord cannot be prevented.

Cohn (1896) says that everything in connection with a disturbed healing process is of an infectious nature. The germs may enter by the lymphatics of the newly forming navel, by the glandulæ of the skin or even directly by the open surfaces of the vessels. And yet, as before stated, fever may be the sole symptom of constitutional sepsis, the local condition telling nothing, or indicating a healthy process.

As for treatment, it can, in a general way, be summed up under one word "prophylaxis." After infection has occurred, as evidenced by an unexplained fever, support and elimination are the watchwords, supplemented, if you please, by local wet antiseptic dressings.

In the line of prevention Dickinson quotes a multitude of authorities, with a consequent multitude of dressings.

Fothergill advises wet antiseptic dressings. The American Text Book of Obstetrics (1896) advises antiseptic lotions (1 to 1,000 bichlorid) followed by powdered boric acid and borated gauze.

E. P. Davis says: "Cleanse with bichlorid (1 to 5,000) powder with salicylic acid and starch (1 to 5) and wrap in borated cotton. Dakin (1897) passes the stump through a square of antiseptic gauze and covers it with one or two teaspoonfuls of boric acid powder. On the other hand, Jewett (1899) teaches that after thorough drying, the stump is to be wrapped in absorbent cotton. Powder is to be omitted as it prevents rapid desiccation. After separation the surface is to be kept dry.

Whitridge Williams says:

> The stump of the cord should be thickly sprinkled with powdered boric acid and covered with a pad of sterile absorbent cotton, which should be held in place by a flannel bandage pinned tightly about the abdomen. This dressing should not be changed for some days, unless it becomes moist or soiled.

Dickinson has advised the ligation of each vessel separately. He prepares the child as for an operation. A nurse takes the cord with forceps, 6 or 8 inches from the abdomen, and makes gentle traction. The jelly of Wharton is stripped back and the sheath is cut at the cutaneous junction. Each vessel is then ligated and cut. They then retract. The skin rolls in and a dry gauze pad is placed over the wound under a roller. No powder and no antiseptic solution.

All these precautions look toward the prevention of infection, and are generally successful. But if, in spite of our precautions infection occurs, little or nothing can be accomplished by local applications. The harm is done and the struggle becomes one of endurance on the part of the child. Danger of further intoxication from the products of intestinal putrefaction must be guarded against by frequent minute doses of calomel, followed by castor oil, and the antitoxic powers of the system must be conserved and increased

by free feeding and all available means. A serum or vaccine may be of benefit if the infecting germ can be isolated or recognized.

SUMMARY

1. Fever in the new-born, which manifests itself at or immediately after birth, may be: (*a*) transient and harmless, arising from the irritation of the heat center in the child by the mother's blood rendered temporarily toxic by products of metabolism which are directly caused by the violent muscular action; or (*b*) it may be septic, due to prenatal sepsis in the mother.

2. Fever coming on at or soon after the separation of the cord is generally septic and depending on infection at the umbilicus.

3. This infection may enter at the open mouths of the vessel, the lymphatics or the perivascular spaces.

4. Fever may be the only symptom of the infection, the umbilicus showing no abnormal sign.

5. The treatment should be instituted immediately after birth and should be directed toward prevention of infection. If fever arises and is persistent, elimination and support are the indications.

DISCUSSION

Dr. W. C. Marsh, Albion: A recent case of mine, a child born after a short labor of a perfectly healthy German woman, developed a temperature of 104½ F. twenty-four hours after birth. No cause could be assigned for the high temperature, which in another twenty-four hours had become normal. There was no sepsis, and the mother's temperature did not rise above normal.

Dr. H. W. Yates, Detroit: I have one word to say about this paper, since so little is written on the subject. I think the principal thing is to recognize any kind of pathology early and that brings up this point: We should examine the new-born child more frequently and carefully than is generally practiced. With that end in view, I think if a chart is kept for the mother it is only fair that a chart should be kept for the babe, remembering always that the child's temperature is about 1 degree higher than that of the adult. If this is allowed to go on for two or three days until we find the child is seriously ill, and then find that it has a high temperature and is seriously ill, we have gotten by the point where we can be of prophylactic use to the child. Therefore, I would suggest the use of the chart for the child as well as for the mother. As I understand it, Dr. Boise claims that the principal thing that he aims to do is to obtain a mummification of the cord, and if that is so it seems rational to see the cord first of all as sterile as possible by the ordinary means, and then to do it up with dry powder and dry dressing.

Dr. C. S. Cope, Detroit: This is an excellent paper and I am very much interested in it. There is just one thing to use with little children as a preventive of fever, and that is high irrigation of the bowels. The bowels perhaps have closed and something rotten is there that is causing this fever (auto-infection). The bowel is made use of for drainage. Open up this river. Give frequent injections, and when at any time you have little children with fever this will do more for you and has done more in my hands than anything else.

Dr. Boise (closing): I do not know that I have anything more to say. I thank the gentlemen for their kind discussion.

1912 DUES ARE NOW DUE AND SHOULD BE PAID BEFORE APRIL FIFTEENTH

PUERPERAL INFECTIONS *

A. S. WHEELOCK, M.D.
Goodrich, Mich.

Those who began practice twenty years ago had some vivid impressions that had been drilled into them in college days regarding puerperal infections. We were told of the classical writings of Holmes and Semmelweis and in accordance with those teachings we were cautioned that if we had one case of child-bed fever we must do no obstetric work for many days to come. And while memory lasts we can never forget the deep responsibility that was laid on the doctor who should fail to remove even part of the placenta in every case of delivery either premature or at term. These impressions were deepened by the tragic narratives of the venerable ladies in the communities where we began practice, and when it was so necessary that favorable opinions be formed of us. Then we vowed that no woman in our care should lose her life as did the one perhaps in the hands of our predecessor, because he had left a fragment of a placenta.

It is true that these two decades have wrought many changes in the theories and practice regarding puerperal infection, owing to our knowledge of the various disease germs and the means by which the system resists them.

I believe it is not the fault of medical teachers in our up-to-date medical colleges that so much irrational practice remains but this is a relic of barbarism that is handed on to the young practitioner both by the laity and by us that are older who ought to have been oslerized ten years ago.

There is one point in the physiology of the puerperal uterus that I wish to recall: There is a leukocytic wall or layer that nature supplies here as in other regions where she wishes to defend and build. This lines the whole uterine cavity and there is a mass of fibrin and clot at the placental site that the examining instrument or finger cannot differentiate from placental tissue. And this if curetted away cannot be named except by the aid of the microscope. Such masses are always formed in the normal uterus and are absorbed or cast off in a physiologic way. This thrombus at the placental site is the means by which those vessels are closed and even if infected is disposed of in a short time in a woman of average resistance.

The bacteria that cause the infective inflammation and exudate here are the same as those that cause infections elsewhere excepting that the colon bacillus and the gonococcus are more frequently the causative factor. There is an occasional case of Klebs-Loeffler bacillus.

The routes of infection are the blood and lymph vessels and not by continuous extension, through the tears of the birth canal, or local foci may arise through multiplication of germs deposited by the blood stream. Old abscesses that have not become sterile may be the cause. That the accoucheur has been at fault is evident by the comparison of statistics before and after rubber gloves and sterile dressings and bedding and surgical cleanliness gen-

* Read at the Forty-Sixth Annual Meeting of the Michigan State Medical Society, Detroit, Sept. 27-28, 1911.

erally were taught. And yet there is still room for improvement for many do not take time necessary to do those things.

There is great immunity against serious systemic infection for it was not uncommon to find at our second visit only a degree of elevation in temperature in the old haphazard days. The pelvic tissues are especially resistant and quickly localize infection because of their bountiful lymph supply. With all possible cleanliness it may be given as a rule that he who makes the fewest examinations introduces the fewest germs.

TREATMENT

We ought to protest in season and out against the general use of the curet where uterine infection is suspected. The amount of tissue removed is no index that it was proper to use it at all. The curet and the uterine douche are still claiming many victims. Should the temperature decline after their use that is neither a proof that the patient is better or that their use has done good. It is not uncommon that a chill comes soon afterward. It may also be worth while in this connection to state that chills, fever and sweat come and go in a most irregular and mysterious way whatever the treatment, or even if no treatment is used. But the curet dislodges the infected thrombi that are lodged in the mouths of the vessels — forces them into the circulation and the blood-vessels opened to absorb more septic material. The removal of a few millions of bacteria from the uterine cavity is of small moment, for enough will be left to cover the favorable surface left by the curet, and are not of the importance of the many millions that are already in the system and multiplying there. It is common enough to require a protest if we recall cases that come to our knowledge when the curet has dug through the softened uterine wall. I wonder if it was to prevent this that the auger was invented. It is not uncommon to find this form in the obstetric instrument bag when its only proper place is among the curios of the historical museum.

Vaginal and uterine irrigation is to be condemned as useless and dangerous. Of what use could it be to wash away the normal saline solution that nature uses to bathe the uterine and vaginal mucosa? If cervical or perineal tears are infected we cannot avoid carrying the infection higher up by the douche.

As regards the more formidable surgical undertakings to get rid of the infected uterus and thrombosed veins statistics do not favor either. It is true these means have been used in the more serious cases but just as many of the serious cases get well without surgery excepting in the complicating neoplasms. So far then in considering local treatment it is more important to point out what not to do as a routine procedure. Cases where great fetor or hemorrhage indicates that secundines remain after either abortion or at term, and such masses are not easily removed by use of placental forceps, may require tamponage of the uterus with sterile gauge. Regardless of temperature this may have to be repacked after twenty-four hours. Pads moistened with Wright's solution of sodium citrate and sodium chloride should be placed externally to prevent odor and facilitate drainage, and these changed often.

The systemic treatment is most important. Dr. Emil Ries began to teach and practice this more than ten years ago, basing his faith on the statistics of Merman who never even examined a puerperal case unless on account of hemorrhage. Treating the fever as any other fever he had a mortality of less than 1 per cent., when in other large hospitals

the usual mortality was about 4 per cent. My own experience is not extensive enough to be of value to any one else, but in cases of retained secundines after abortion, I have let nature prepare for their easy removal and have had no case in which I regretted this practice. I have drained the culdesac in three but let nature sterilize these unless they point decidedly toward the vagina. There will be a small number that will require surgical attention afterward. but Nature often completely care for the inflammatory exudates.

Dr. T. J. Watkins, of Chicago, has kindly furnished me with the statistics of Wesley and St. Lukes hospitals. He follows what he styles a rational treatment and appropriately so. for he treats them as he would an infection elsewhere. These are severe hospital cases some of whom had had meddlesome surgery as curettaga and douches before coming under his care. Six of these ninety cases were suffering from septic peritonitis and practically moribund when admitted. Three others died, so we might say there was a mortality of less than four per cent. His routine treatment is: first, forced nutrition; second, elimination; third, relief of pain with codein; fourth, fresh air and sun baths as for tuberculosis.

The last ten years has done away with abdominal section in the acute stage of puerperal infection. The next has got to fight its battle against the curette and the douche. We have thought these measures resulted in the decline of fever and the patient's betterment, but those who recovered did so in spite of a treatment that was a damage. Vaccines may do good in chronic cases. Posture for drainage, abundance of water by mouth and proctocylsis for elimination. Concentrated digestable food and hygienic measures to increase systemic resistance will save 98 per cent. of puerperal infections.

DISCUSSION

Dr. H. W. Yates, Detroit: This very important paper should not pass without some discussion, I am sure. I am sorry that in the doctor's framing up of this paper he did not lay a clearer outline of the different forms of infection. We have two forms of sepsis, one of which is of the sapremic character and depends on dead tissue for its promulgation and propagation; therefore, this variety depends on retained portions of the placenta, blood-clot. etc. The other type is that of the pathogenic organism, such as the streptococcus, staphylococcus colon bacillus and gonococcus, and their frequency is found in just the order I have mentioned. Now, as to saying that the curette has no place, or that the finger in the uterus has no place in forms of sepsis, is rather a broad statement. If we have retained placenta or secudines, sufficient dilatation is necessary to remove these secudines either by the forceps, as the doctor has said, or by the finger, which is very much more preferable, or by a dull curette. If, on the other hand, we have this other form of sepsis, no instrumentation should be permissible under any circumstances that I can recall now; that is, early. That brings us up to this point; we must make a diagnosis of which of these forms we have. True, occasionally we have a mixed form of infection, but as a rule one or the other predominate very markedly, and if we have a sapremia, with a high temperature, sweat and all that sort of thing which characterizes sapremia, with a sudden rise of temperature and a pulse which does not speak of streptococcus, that uterus should be explored carefully with all the precaution that belongs to any surgical operation. There is a clinical entity which is very pronounced in these two forms as well. We find that people suffering from a sapremia do not show that sickness nor shock; they are not so disturbed; their pulse-rate is not so disturbed as it is with the staphylococcic or streptococcic infection. A person will have a high temperature with sapremia, and in twenty-four hours after the cause is removed they will feel as well as ever. It is not so with the other form of sepsis. Therefore we should make our diagnosis early by smear and by clinical signs as to what form we have.

Having determined that, then we should treat it accordingly. I think the doctor's paper has well brought out this one principle: that the sooner we learn that we have a serious infection of micro-organism of the pathogenic type—streptococcus, staphylococcus and colon bacillus—the sooner we learn this the better, and the longer we keep out of such a uterus the better.

Dr. C. S. Cope, Detroit: I gave a little of my views this morning, but I really think that the physicians of later years have been governed by names rather more than conditions. As I said, in the early part of my practice, and I have associated with my father and other physicians in large practice, I do not recall a single case of death from sepsis, and, as I said this morning, for sixteen years I took care of women in confinement and never washed my hands until after I got through. About twenty years ago they began to talk about using the douche and the curet, and, bless my soul, we began to have those cases, and where I could have a nurse and the nicest conditions possible and every precaution taken. I can recall the most heart-breaking case where the woman died in spite of everything we could do, and at the same time I would be taking care of cases where they were poor and neglected and the common comforts of life not present. I remember one woman who gave birth to a child, and the baby was, they said, crooked, and they had a midwife there two or three days, and she was dirty, inconceivably so, almost. The after-birth was retained, they could not get it away, and asked what I would charge for coming. I went there and found an hour-glass contraction. This was about forty-eight hours after that woman had manipulated the parts and bruised them. There was no special laceration, but the woman was in a bad condition. She was covered with a dirty horse-blanket that had been lying on an old couch in a stable, and I delivered that woman of her placenta and she made an uneventful recovery. How do you account for it? There must be something to it we do not yet understand. We have been scared with this cellular pathology, and we come up to the cellular pathology and there we stop. Cellular physiology is the thing we want to consider. Go a step further. Do not be scared and say this, thus and so. I would not have you understand for a minute that I do not take every aseptic precaution. I do everything I can for the benefit of my patient as science dictates now, but I think we have gone too far in those cases. Case after case comes and goes; the case apparently neglected and the case that you would think should have infection has come out all right, whereas those where you took every possible precaution becomes infected. Where do you get it? It must be something in the patient, because, as I said before, if we tested each expectant mother first it would be better. Ask for the urine and test for indican. It is its presence there which indicates faulty metabolism, which I think leaves the door open for infection to follow. See that the body is put on its best basis; see that the metabolism is good, so that the phagocytes can eat up all that comes to that case, and the woman will be on the defensive and not suffer from the pains and penalties which follow.

Dr. F. L. Tupper, Flint: About the first question asked of a physician after he has attended a case of obstetrics or miscarriage is, Doctor, did you get all of the after-birth? So oftentimes the uterus is cleaned out to satisfy the laity and prove to them that nothing has been left behind to cause the much-dreaded blood-poisoning. I firmly agree with Dr. Wheelock that the less you examine and do at this time, the better it is for the patient. I think the proudest moment of my life was after I had performed my first curettage. I did not know just what I was doing, and fortunately for all parties concerned, the patient got well, but it was more by good luck than good management.

Dr. Rolland Parmeter, Detroit: I cannot miss my opportunity to add my mite of praise in behalf of this most excellent paper. Such sane and sensible things and said in such a way, coming from a general practitioner, shows that after all the average practitioner of to-day is fully abreast of the times. He keeps in touch with medical matters and is not led astray by glittering generalities. Such a paper as that just read deserves the highest commendation.

Dr. Robb: I have passed the age of 64 years, and I want to say to you that this is the first really good paper I have heard on this subject since I have been practicing medicine. I tell you we have had too much midwifery all the way through. Nature is the best physician we have, and she has no superior. I have had the strongest fight in my life to let douches and things which have been marketed in the last twenty-five years alone. I know that I have attended over 1,000 confinements during that

time. I never have worn a glove and have been particularly careful about keeping clean. I have no use for meddlesome midwives. I never used instruments unless absolutely necessary, and I can look over my work of forty-five years and count but four deaths during that time, and I believe it has been simply from the fact that I have not been meddlesome, but I have been careful, and as I say, I want to say "Hallelujah! Thank God, we have got somebody who is on the right road."

Dr. A. L. Seeley, Mayville: Possibly I have found my ways from a different field of practice. The people who live in sanitary surroundings do not have to learn how to resist those germs. Probably the people in the country have a higher resistance.

Dr. Reycroft: From all this talk it would seem that the infection comes from the outside, either from the intra-uterine cavity into the vagina or from some infection from the obstetrician, but I remember one case I would like to mention, and that is one I believe had a ruptured pus-tube during confinement. I believe we have many cases that come along after confinement or miscarriage, that do not come from intra-uterine trouble. These come from extra-uterine—from pus-tubes. Those cases, however, you might probably differentiate from the others from the quickness with which they result, and the very great distention following immediately after confinement.

As far as taking care of the case after confinement or miscarriage is concerned, you remember, probably all of you, twenty years ago we used to use bichlorid of mercury injected vaginally, and probably caused some trouble. To show you how quickly the absorption goes along that channel, I remember some ten years ago I knew considerable about adrenalin. Two cases came nearly together, and there had been a dangerous hemorrhage. I thought now this new remedy would probably prevent this hemorrhage that the other doctors had failed to check, and I would get a long syringe and when this hemorrhage began I would carry it into the uterine cavity and inject a little adrenalin, which I did. The first case did not seem to do well. It checked the hemorrhage, but I nearly lost my case. I could not see what did it. The next case that came along I did the same thing. I could not see the danger of using a drachm. I used it intra-uterinely. I could not see how we could get any trouble from it, but I remained all night and pretty near all the next forenoon before I could go home, because the patient had no pulse and we were alarmed. That shows you how dangerous it is to use any medicine intra-uterinely. We do not use it any more intra-uterinely. We hardly use anything. It is wonderful how we do find people who get through who are living in filth, and in many cases we admit this, but it is no reason why we should not be as clean as we can be on every occasion. I am glad to have heard the discussion and wish to compliment the doctor. I think we should in every case we attend of confinement be cleansed as though we were going to operate.

Dr. R. R. Smith, Grand Rapids: I want to add a word of commendation of Dr. Wheelock's paper, and endorse his sentiments. I think this is the attitude we should all hold toward this matter of puerperal infection; that is, the attitude of non-interference. The cases that have retained secundies resulting in infection are few, and after one is reasonably sure that such a condition does not exist (a thing which is very easily found out), the policy should be to let the uterus strictly alone and we should depend on feeding, sleep and good care. I am very glad indeed to see that he called attention to the necessity of sunlight. Where a patient is in for a long siege it is of importance I think to see that they are moved to a room where they can have plenty of fresh air and sunlight. I believe these things will go a long ways. In other words, use all the general measures you can, and let the local trouble alone.

Dr. A. S. Wheelock, Goodrich, (closing): I thank you very much for your discussion of the paper. Only a moment to discuss a few questions that were brought up. One relative to the kind of sepsis; the kind of germs. I wish again to reiterate, it does not matter; you will find as much difference between two types of streptococcus infections as you will between sapremic and the streptococcic cases, and, as I was going to cite, a distinguished Chicago pathologist has shown us that the sapremic may suddenly assume the type of a streptococcic infection, and the best pathologists cannot tell the difference. This occurred to some of Dr. Watkins' cases, in all of which bacterial examinations were made, and he has decided, in citing his ninety- cases, that it is absolutely of no consequence. It is the symptoms that they have regarded, and the same with Merrmann in his large number of over 800 cases. He had 4 per cent. of fatalities in the first 300, 1 per cent. in the last 500.

SOME THINGS TO BE REMEMBERED IN THE MANAGEMENT OF STRICTURE*

ARTHUR EDDY WEST, M.D.
Kalamazoo, Mich.

It is not the expectation that I can contribute anything new to the subject that influenced me to choose the present topic. The management of stricture is thoroughly covered by any of the many text-books on genito-urinary surgery, much more thoroughly than is possible in the few moments at our disposal. The sole object of this paper will be to emphasize old, well-established rules governing the treatment of stricture; rules which my experience teaches me, and no doubt is true of the experience of every man here, are often observed more in the breaking than in the keeping. It is no new experience for any of us to have a man come in fear and trembling, telling us of his stricture and the treatment he has received and, far too often, his story is literally a tale of bloodshed. Every physician, I think, understands the principles governing the treatment of stricture; it is only that in the hurry of every-day practice he tries to hurry his stricture cases too; and this paper is in a way a plea to physicians to take more time and pains in the management of these cases.

The first point that I wish to emphasize is the necessity of always having a clear and definite mental picture of the anatomy and relations of the urethra. We want to know at each stage of its passage to the bladder what the tip of a sound is going to encounter. The more complete and detailed one's knowledge of the urethra is the better, but there are a few things that are essential. These are that the urethra is a collapsed tube, 8 to 9 inches in length; that except in the prostatic and membranous portion its walls are elastic and capable of considerable distention; that it is not of uniform caliber throughout, but in the prostatic region, in the bulb and in the glans there is a considerable widening, while at the meatus, membranous portion and internal extremity there is a narrowing; that in those portions that are dilated, the dilation is towards the floor, leaving a fairly unbroken line forming the roof of the canal; that, for our purpose the canal is divided into two parts, an anterior and posterior, the anterior extending from the meatus to the beginning of the membranous, and being about 5½ inches in length; the posterior from that point to the bladder, and being about 3 inches in length; and that the posterior part curves under the symphysis pubis, the curve forming about one-third of a circle with a radius of $2^2/_5$ inches. It also should be remembered that a congenital stricture is sometimes found at the posterior end of the fossa navicularis and that the membranous urethra is enveloped by the cut-off or compressor urethra muscle, a spasm of which sometimes leads us to believe we have a stricture at that point. While, as was said above, a more detailed knowledge of the urethra is desirable, still these facts are essential and give us a working knowledge.

The next point to be emphasized is the necessity of a clear conception of the

* Read at the Forty-Sixth Annual Meeting of the Michigan State Medical Society, Detroit, Sept. 27-28, 1911.

nature of a stricture. A stricture while not a disease in itself, still is the result of disease processes and may be in turn the cause of disease processes. An inflammatory process in the connective tissue beneath the urethral mucosa, or an injury, gives rise to the formation of new connective tissue; with age this connective tissue contracts and in contracting narrows and distorts the urethral canal. Strictures are classified in different ways and many varieties have been described, Keyes enumerating no less than seven; but the essential thing to remember is that a stricture is the result of contracting scar-tissue, and as such should be treated. This scar-tissue, as in other localities, consists in varying proportions of white fibrous and yellow elastic connective tissue. This is important in relation to the results of treatment. If it is mostly white fibrous tissue, the stricture will be hard, yield slowly to treatment, but once stretched out tends to remain stretched. On the other hand, should the scar contain much yellow elastic tissue, the stricture dilates readily, but contracts just as readily. Such strictures may have to be cut and kept open by the frequent use of sounds during the remainder of the patients lifetime. Another thing that must be remembered is that once scar-tissue has formed it can never be completely removed. Even if the cicatricial mass is resected, a new scar forms when the severed tissues unite, and in its turn contracts and forms a stricture. So, from the nature of its cause, stricture cannot be cured in the ordinarily accepted sense of the word. What we do attempt to accomplish is a dilation of the strictured parts, a stretching out of the scar-tissue, a process which generally consumes a considerable period of time. This is a fact that the patient should be made to understand, as it is by a thorough understanding of his condition that his complete cooperation can be secured.

The next point to be considered is the necessity for proper instruments and their proper care. In some conditions one instrument can be made to do service for another, but this is seldom the case in the treatment of stricture. If an urethra will accommodate only a 20 F. and a 25 F. is made to do service, damage is bound to result. Better wait till the proper instrument can be secured. But the list is by no means long and every physician should have them. The necessary apparatus consists of a set of bulbous bougies for diagnostic purposes; a set of silk-web bougies, 6 to 24 F.; a set of conical sounds, 18 to 34 F.; two dozen or so whalebone filiform bougies and a few silk web filiforms; and for the few cases when rapid dilatation is necessary, a set of Gouley's tunneled sounds. Some convenient means of sterilization should be provided. I say convenient because many of us are prone to slight those things that are troublesome. Some good lubricant should always be at hand and there are several on the market. Glycerine is not slippery enough, and vaseline is too sticky, besides causing a rapid deterioration of silk and rubber instruments and making them more difficult to sterilize. Some means of irrigating the urethra is also necessary. Personally, I find a 150-gram Janet-Frank syringe meets every requirement. It is perhaps needless to say that urethral instruments need the best of care. Steel sounds corrode easily and the bougies, if not properly cared for, soon crack and roughen, and once this takes place they should not be used. A rough instrument is sure to cause damage. The sounds, after being sterilized, should be rinsed in alcohol, wiped dry and kept in a dry place. All silk instruments should be thoroughly cleaned, sterilized in formaldehyde gas, wrapped

in dry sterile gauze and kept in a dry place; they must be laid out straight, as coiling soon ruins them. I might say here in passing that soft rubber catheters, if wrapped in moist gauze and kept in a dark place will remain good for two years and over.

DIAGNOSIS

A word should be said about diagnosis. It is not sufficient to determine whether a 16 or 18 F. will pass. The location of the stricture must be determined, as well as the length of the strictured part. The number of strictures present should be learned, and as far as possible the extent of each. The irritability should be noted and likewise the condition of the urine and, if present, the extent of any infection of the urinary passage. In fact, no steps should be neglected that will enable us, before beginning treatment, to get an accurate knowledge of the conditions present.

TREATMENT

We now come to a consideration of the means employed in restoring the urethra to its normal caliber. In the past two centuries many methods and operations have been devised. Most have been tried for a variable period of time, cast aside, and dependance placed in one of the oldest, gradual dilatation. This is the simplest, for the majority of cases the best, and is the one which will be considered here.

The treatment of stricture may be divided into three stages: the preliminary stage, the dilatative stage and what may be called the "follow-up" stage. In the preliminary stage the patient is put in the best possible condition for instrumentation. A great many stricture cases come to us with a greater or less infection of the urinary passages. If the use of dilating instruments is begun at once, there is danger of aggravating this infective process; greater liability to urethral chills, and, should gonococci be present, of inciting a joint or epididymial infection. So, except in those cases with very tight strictures that demand immediate attention, these bladder and urethral infections should be ameliorated as much as possible before beginning the work of dilatation. This is accomplished by the usual urethral and bladder irrigations with antiseptic solutions. Where the gonococcus is present, the best results are obtained by the use of silver nitrate in strengths of 1 in 10,000 and up to 1 in 4,000. In infections with other organisms, oxycyanide of mercury 1 in 5,000 seems to give better results.

The actual dilatation, as every one knows, is accomplished by the use of flexible bougies and steel sounds in gradually increasing sizes. The choice of the flexible bougie or sound is decided by the grade of the stricture to be treated. Up to 20 F. it is advisable to use the bougie. The tips of small sounds easily catch in the folds of the mucosa and the irregularities sometimes found about a stricture, and it is very easy to do much damage with them. The flexibility of the bougies makes them follow the curves of the urethra more readily and lessens the liability of injuring the urethral wall. In fact such injury is almost impossible if the penis is put well on the stretch. Another factor is the attitude of the patient towards the two. The appearance of the bougie frightens him much less, and a few weeks' treatment with them gives him confidence. When the caliber of the stricture is 20 F. or wider, the steel sound is used. It seems to me that the cicatricial mass softens more rapidly under the use of the steel sounds and the wider tip of the larger sounds used at this stage of the treatment makes them less dangerous. The steel sound,

however, is at the best a dangerous instrument and a few words regarding its use will not be out of order. The first point to consider is the size of instrument. The first sound introduced should be at least two sizes smaller than the measure of the stricture. This makes its passage easy and comparatively painless. Besides, being smaller than the stricture it carries the lubricant to the deeper parts of the urethra, whereas, if the sound is too large, the strictured part hugs it closely, wipes off every bit of the lubricant, leaving the proximal part of the instrument to traverse the deep urethra dry. The question of lubrication is an important one. If the progress of a sound is impeded, we must know if it is some obstruction at the tip of the instrument. This we cannot know if the sound is sticking to the walls of the urethra. Moreover a poorly lubricated sound is bound to cause irritation, an occurrence always to be avoided as far as possible.

The next point requiring consideration is the number of sounds used at each treatment and the length of time each should be left in place. This depends somewhat on the individual case under treatment. In the majority of cases not more than three numbers should be used at one sitting. The passage of a large number of sounds, one after the other, cannot be too strongly deplored. Each sound should be left in place ten minutes, as its presence in the urethra causes a softening and relaxation of the cicatricial tissue. This softening enables us to introduce the next size with ease. It sometimes happens, however, that enough softening does not take place to permit the introduction of the next size. If this is the case it will be noticed that there was more or less resistance to the withdrawal of the last sound used. This tugging is quite characteristic and always contra-indicates the use of a larger sound at that sitting.

The intervals between the treatments will also depend on the individual case. Some will bear the introduction of the sounds every second or third day without irritation. The majority, however, seem to do better with a treatment every fourth or fifth day.

There is one point that cannot be too strongly emphasized—that is the necessity for gentleness. Every physician knows this, yet, judging from results, it would sometimes seem that no injunction is oftener disregarded. No force whatever should be used. The sound, after reaching the cut-off muscle, should pass into the bladder by its own weight. Even a spasm of the cut-off will be overcome in a short time by the weight of the instrument. Barring such spasm, any arrest of the sound is certainly due to error of technique or the instrument is too large, and any application of force will cause damage. Even if the force applied isn't sufficient to make a false passage, it will be sufficient to cause irritation, something as said above, every precaution should be taken to avoid. Irritation causes swelling of the strictured part, and if often repeated may even incite inflammation, which to say the least, will interrupt the treatment.

After each introduction of the sounds, the urethra should be irrigated with some mild antiseptic solution; if the sound has passed into the bladder, that should be irrigated also. This is to lessen the chances of urethral infection from bits of pus and germs that might be squeezed out of the urethral glands.

Now a word about the "follow-up" stage. Our task is not completed when the normal caliber of the urethra has been established. The stretched-out scar-tissue at the site of the stricture is going to con-

tract again, and there is no way that the time it will begin can be foretold. The patient should be instructed to report at gradually increasing intervals, and his urethra examined. When evidences of contraction are noted, the interval elapsed since the cessation of treatment should be noted, and a full size sound introduced at a slightly lessened interval through a long period of time, that is two or three years. If the recontraction is rapid, and the patient one to whom frequent visits to a physician would be a serious burden, he may be provided with sounds and instructed how to use them. This should be avoided however when possible, as he is almost sure to infect his bladder sooner or later.

In conclusion a word should be said about the patient himself. Not the least important factor in the successful management of stricture is the management of the patient. His condition should be carefully explained to him as it is only by thoroughly understanding his trouble that he can be expected to cooperate with the physician and submit to the long course of treatment necessary.

DISCUSSION

Dr. W. E. Keane, Detroit: I wish to congratulate the doctor on his clear expression of the subject. I think we all agree that the matter was covered very carefully. There are just a few points I would like to make which the doctor did not bring out. I believe that the average case of chronic gonorrhea that comes to the physician is carried along too long a time with the ordinary treatment of gonorrheal cases. I believe that if the patient comes in and gives a history of gonorrhea two or three years before, with freedom from any infection for two years, and then he makes his appearance at the doctor's office, saying he has had gonorrhea for two or three weeks, I believe after we apply the ordinary methods of treatment for a short time unsuccessfully we should not hesitate to explore in with the bougie à boule and see if he has not got stricture. Ordinarily the patient believes he has no stricture unless he has inability to pass water. That is not true. A great many times the patient will pass water with freedom and have a stricture of a very small caliber. The first point I would make, therefore, is that we wait a little too long in cases of gonorrhea before determining whether the patient has complication of stricture or not.

Again, I think the meatus that is below 24 should be cut. Strictures do exist which a 24 French bulb will not detect, and they are of sufficient importance to require dilatation.

The question of the patient himself I think is always an important one. I think he should be instructed at the beginning that a stricture can be cured clinically, but anatomically we cannot expect to change the scarred tissue. We can stretch it; we can make him comfortable, and clinically he will be cured, but anatomically we cannot cure him, and it is well to explain this to the average patient, or to all patients, that you cannot "cut out" a stricture. You may tell him you can stretch it, and if you make it clear and that you can cure him by that means and that he will remain cured, for a long period, why, you will accomplish a great deal.

The method of treatment by electrolysis I would like to say a word on. A great many patients will come to you and say they have been treated by such and such a doctor by electricity. I do not know what your experience has been, but my own experience with electricity leads me to the conclusion that it is entirely worthless. Some get apparent results, but they get results from the introduction of the steel bulb. That will cause some dilatation, and they get some results from it, but I do not believe they get any results whatever from the use of electricity. My time is up, and I will finish quickly on one or two points I desire to mention. One, as to diagnosis. If we get free hemorrhage it is pretty certain we are getting in a false passage, even with a small instrument.

A final word with regard to the use of the smaller bougies. The doctor spoke of a number of different instruments used in the treatment of strictures, but I do not believe he mentioned the Lafort instrument. I do not know what the experience of the members

present has been with this instrument, but Dr. Robbins and myself have found it invaluable in the treatment of strictures of very small caliber. Patients come in continually who have consulted several men and on whom have been tried all sorts of instruments without success. This filiform will slip in readily and will pass the stricture. With the filiform in the bladder it is a simple matter to thread on a steel sound of small caliber or a catheter in case we have retention. There is no danger of damage to the urethra by this method and the patient suffers less than by any other method that I know of.

DR. F. B. MARSHALL, Muskegon: During the past eighteen months I have been using quinin-urea, 20 per cent. solution, as a local anesthetic for dilating stricture of the urethra with entire satisfaction. The quinin solution is held in the urethra ten to fifteen minutes before instruments are used. The three-bottle urinary test is made on all patients, which frequently gives a key to the condition. Before injecting the quinin solution into the urethra, I irrigate the anterior urethra with an alkaline antiseptic. After the usual examination for stricture, if found, the urethra is anesthetized as before mentioned, and the stricture divided with an Otis-Wyeth urethrotome. After division of the stricture, a Leusman's dilating irrigator is introduced through which a very weak iodin solution, temperature 120 F., is allowed to run. One gallon of this iodin solution is used for washing the urethra. The iodin solution is used through the dilating irrigator every third to fifth day for two or three weeks, after which sounds are employed. This method of treating urethral stricture has proved most satisfactory.

DR. F. W. ROBBINS, Detroit: I did not expect to say anything in this discussion, having heard a part of the paper only, but am called to my feet particularly by the remarks of the last speaker, and I should be very glad to hear from him, or have him read a paper at another session on the treatment of stricture, because I can assure you that when he begins to impress on the mind of the general practitioner and the general surgeon that the treatment for stricture is urethrotomy, he is going way beyond what is believed today by genito-urinary men as to the proper treatment of stricture. To illustrate: A man who has one of the largest urinary practices in the country told me a few years ago that it had been three or four years since he had done internal urethrotomy, and I am sure it is very unusual to find a man who does internal urethrotomy as a cure for stricture. There are strictures and strictures. Some forms are elastic, and narrow in the anterior urethra. In such the urethrotome is a very splendid instrument. I certainly believe in the use of the urethrotome, but it should be used only in a small proportion of cases. Gradual dilatation, once in five, six or seven days, is the proper treatment for the removal of stricture in the pendulous urethra. I am sorry to say occassionally we find men who are using the urethrotome on strictures near the bulb. In such needing operating an external not internal urethrotomy should be done.

DR. LENTZ: Of all the interesting subjects as presented here this is the most interesting to me, and I want to say one word in regard to the instrument the gentleman spoke of before. I have used that instrument for the past twelve years, and I can only recommend it in the highest terms. If in examining the urethra the first time the patient comes to your office, you find it difficult to make a clear diagnosis, this instrument will furnish you a greater source of information than any other, and it will avoid possible injury by the use of other instruments first. I would like to hear a paper from the first speaker on this subject, as to his way of operating. I discarded that method years ago.

DR. A. HENRI COTÉ: I did not expect to discuss this paper. There are two or three points I might mention that are interesting to me and were not mentioned in the paper nor in the discussion. A number of these cases come to the man who is doing special work in this line after the attending physician has treated them for a number of weeks with astringent solutions, and apparently cannot get rid of that "last drop." The patient has a sound passed, possibly one or two irrigations following it, and the discharge ceases. There will be found granulations present in the urethra which will keep up a discharge. This is a practical point which seems to be overlooked by a great many physicians. It is very simple, and yet it is not taken cognizance of. As one of the speakers said, if the meatus will not admit the sound, it should be cut. Very frequently there is a small ulceration back of the meatus which will not heal unless the meatus is cut. Immediately after being

divided and kept clean with an antiseptic solution it will heal.

There is one question I would like to ask the author of the paper, and that is, What degree of force does he use in the endeavor to get through an apparently impervious stricture of the posterior region?

Dr. A. E. West, Kalamazoo (closing): In regard to the question of force used in getting through an apparently impervious stricture, I can say that so far I have never found it necessary to use any force at all. In strictures of that kind we generally use the silk-web filiform and not the whale-bone instrument. The silk filiform is so pliable that it is *impossible* to employ force with it worthy the name of force. It is the preliminary use of the silk-web filiform that gives its value to the Lafort instrument.

I would like to emphasize what Dr. Keane said with reference to electricity in the treatment of stricture. I think its use should be strongly deplored, and to me it seems that the electrical treatment of stricture is simply an excellent means of getting the patient's money. There is nothing further I care to say. I thank the gentlemen for the very kind and practical discussion of my paper.

ANAPHYLAXIS

While immunity is one of the most important phases of modern medicine, says S. G. F. Grinnan, Richmond, Va. (*Journal A. M. A.*, January 20), it is necessary for its understanding that we also understand anaphylaxis, or the condition of acquired or congenital hypersusceptibility of an organism to a strange protein or antigen with a reaction body formed in the organism undergoing immunity. The substance must be protein in nature, though not all proteins will cause anaphylaxis. He gives as an example of anaphylaxis the injection of horse serum into a guinea-pig sensitizing it to a second dose. He reviews the literature of the subject, showing that anaphylaxis is a specific reaction, and especially notices the conditions in which it may be induced by horse serum injections, as the horse is the animal from which serums are chiefly obtained. The toxic action of milk to certain children and of other articles of diet are also noticed in this connection. The reactions in the use of serum occurring after previous inoculations are principally due to this cause and persons liable to asthma or possessing special susceptibility to horse emanations seem to be particularly liable to these accidents. A test of susceptibility in such cases would be of great value. The subject is gone into in detail and he points out the importance of the study of this particular subject, especially in connection with the use of vaccines and antiserums.

SOME SUGGESTIONS REGARDING THE MEANS OF DETECTING ADVERSE SELECTION

Arthur B. Wood, Canada, discusses the importance in life insurance of avoiding risks of a fraudulent nature, and presents some points to assist one in doing this. At the same time the referee should not be too severe in rejecting applicants. Plans for insuring lives that are clearly under the average should be commended, since it is just these risks that need insurance. All speculative risks should be refused. The author believes that medical selection is of value as is illustrated by the high death-rate that can be demonstrated among rejected applicants. Good faith in the insured is essential. Self-selected risks are generally good ones. The natural interest in a case of insurance is that of a wife in her husband, that of a child in its father, that of a creditor in a debtor, that of a partner in a co-partner, and that of an individual in another whose death would result in financial loss. Where the beneficiary is to pay the premium the risk should not be accepted. A creditor has a legal right to insure a debtor, but when he risks the premiums and the principal at once there is generally a reason for expecting the death of the debtor. Insurances for large amounts should be carefully looked into. Applications for repeated insurance should be carefully questioned. One should be careful of young ages at entrance, as well as of advanced ages. Adverse selection is to be feared under the cheap forms of policy. Females who are single and in business are generally good risks; married women are less so. Of occupations that of the liquor dealer is likely to have a greater mortality. Special hazard attaches to lack of intelligence. Business from outside sources is apt to be bad. —*Medical Record*, Nov. 25, 1911.

OFFICE MANAGEMENT OF RECTAL DISEASES, SURGICAL AND NON-SURGICAL*

JAMES A. McVEIGH, M.D.
Detroit

This paper has been prepared for the Section on Gynecology and Obstetrics because of the intimate relationship between proctology and gynecology, and I have taken occasion in that portion of this paper bearing on the reflexes to call attention to the action of the reflexes as they are noted in these two special lines of practice. It will be necessary, owing to time limitation, to cover this subject in a general way only, leaving out the details, but the paper is presented in the hope that it may be effective in calling attention to conditions frequently met with, yet which do not always receive the serious consideration to which, because of the discomfort, pain and possible serious consequences to the patient, they are entitled.

For a long time the diseases of the rectum and anus were to all intents and purposes treated indifferently by the medical profession, and as a result proved to be a lucrative field for the charlatan and itinerant quack who were quick to realize its possibilities and used it as a means to foist their cure-alls and devices of various sorts on a suffering and anxious public. By degrees however, the medical profession has come to seriously consider these conditions of the rectum and anus of much importance, both as to the patient's personal comfort and to their possible effect on his future health, with the result that this branch of practice is being rapidly restored to the hands of men engaged in the legitimate practice of medicine.

Much of the success in the management of rectal disease depends on the method of conducting the examination, for without a thorough and complete examination it is often impossible to make a definite diagnosis. A careful examination in these cases is most important, for under careless inspection the true source of the disease is apt to be obscured and serious results may follow the entirely wrong or inadequate treatment which may be subsequent to a careless examination and consequent faulty diagnosis. It often happens that a patient on consulting a physician for trouble in this region is allowed to make his own diagnosis and outline a course of treatment. This is entirely wrong and often results in serious trouble, eventually, for the patient, because the true source of trouble, or possibly the real existing condition, which would be revealed by proper examination on the part of the physician, is not understood. As an instance of what may follow neglect of this sort, may be cited thrombotic hemorrhoids which have been neglected and which have developed into abscesses as a result of such neglect. A thorough examination which will render possible an early diagnosis, followed by the proper line of treatment will, in the majority of cases, effect a complete and rapid cure, for there is no class of cases more readily amenable to proper treatment (and this can only follow a careful examination and correct diagnosis) than that

* Read at the Forty-Sixth Annual Meeting of the Michigan State Medical Society, Detroit, Sept. 27-28, 1911.

class of cases coming under the head of diseases of rectum and anus. The examination should begin with an inquiry into the patient's history. This often serves to put the patient at ease and inspires in his mind a confidence in the physician which is always a valuable adjunct in the treatment of any disease. Moreover a person suffering from rectal trouble is usually nervous and depressed, and to be permitted to recite his personal and family history, in so far as it may have a bearing on the case in hand, to a physician who is patient and attentive, will frequently serve to calm the patient and elicit from him more satisfactory replies to such questions as the physician may ask him. He should be questioned regarding the state of his bowels, whether constipated or whether there is diarrhea, if there is pain, protrusion, discharge, or any other questions along this line that may be deemed advisable. If pain is present, inquiry should be made of the time it occurs, whether during the act of defecation or afterward, whether it is sharp and lancinating or dull in character; whether it is confined to the anus or reflected down the left limb or to the back; how long it lasts; does it disappear abruptly or subside gradually?

In regard to protrusion, inquiry should be made of the nature of such protrusion, of the time it occurs and whether or not it is possible for the patient to return the protrusion. As to discharge, the patient should be asked regarding the nature of it, whether it is bloody in appearance or streaked with blood and whether the discharge is constant or occurs only at intervals. Having made this investigation, the physician should proceed to make a physical examination, for after all it should be borne in mind that the symptoms as outlined by the patient only give a general idea of the nature of the trouble and a diagnosis should be made only after a careful and thorough examination on the part of the physician himself. It is a well-known fact that in many instances the statement of the average patient is unreliable and the physician who makes a diagnosis based solely on the statements of the patient and prescribes accordingly will be apt to find himself at some time or other in a very embarrassing predicament.

For the purpose of making an examination of a patient with rectal or anal ailment there are a number of positions each of which has its advocates. For obvious reasons it will be impossible to refer to them all at this time and accordingly mention will be made only of the three positions that are generally employed, viz., the Sims, or left lateral, the lithotomy and the knee-chest. The first named, the Sims, is the one generally used in making an office examination. It is less uncomfortable and embarrassing to the patient than either of the others and possesses practically all of their advantages, although there are cases in which either of the other positions is more satisfactory. To place the patient in this position, he is directed to lie on the table on his left side with the left arm behind his back, the right leg drawn well up toward the body and with the buttocks brought well over to the side of the table where the examiner stands. It is always advisable wherever possible before proceeding with the examination to have the patient's bowel emptied by means of an enema, in order that the rectum may be cleared of a possible accumulation of fecal material, the presence of which might interfere with the examination. With the patient in whatever position may be determined on, an inspection of the external parts should be made. The general appearance of the anus and the surrounding skin should be noted. If there has been a pruritic condi-

tion, the possible presence of parasites should be sought out. We should note whether there is swelling or redness about the anus and whether the surrounding skin is excoriated or sluggish looking and whether there is an abnormal moistness about the anus and if so the nature of it. We should also look for scars, external fistulous openings and ulcerations. If a fistulous opening is observed, it is often possible to trace the course of the fistula by means of an indurated pencil-like canal which leads from the external to the internal opening. By this method of examining we are able to likewise observe external hemorrhoids which may be either thrombotic or inflamed, either type of which is extremely painful. If there is protrusion, it should be carefully observed for the possible presence of ulcerations, etc. Now, by separating the buttocks widely and asking the patient to strain slightly, almost the entire anal canal can be brought into view. It is here that irritable ulcers or fissures and the internal openings of fistulas are found and quite frequently too internal hemorrhoids may be observed. The general appearance of the anus should be carefully inspected, for the source of the trouble for which the physician is consulted may be found here but may be overlooked if gone over carelessly. Following these procedures comes the digital examination and it is most important, for the educated finger will alone reveal many pathologic conditions, such as stricture of the rectum, impacted feces, polypi and ulcerations, especially those long standing in which the edges have become indurated. It is rarely possible, however, to determine the presence of internal hemorrhoids by the sense of touch unless they have become much thickened by long-continued inflammatory process. The examining finger should be well anointed with a suitable lubricant, and by directing it forward and with a slightly boring motion the sphincter muscles will gradually relax and allow the finger to pass into the rectum. The finger should be swept around the rectal walls to note the presence of any abnormal or pathologic condition, and on withdrawal particular attention should be given to the space between the sphincter muscles. It is here, as previously mentioned, that the educated finger will reveal the presence of the internal opening of a fistula. As for the instrumental examination, it is made by means of the speculum or proctoscope or sigmoidoscope. There are many different varieties of specula on the market, each of which has its supporters. Those devised by Dr. Mathews and Dr. Cook are very satisfactory, because they obscure but little of the field which is being inspected. The proctoscope is preferred by many. With the obturator in place, it is gently introduced into the rectum when the obturator is withdrawn and, by means of a good natural or reflected artificial light, the rectum and anal canal can be carefully inspected as the cylinder itself is slowly withdrawn. The sigmoidoscope is used in the same manner but should be used with care and only by one familiar with the anatomic arrangement of the rectum and sigmoid. The careless or ignorant use of this instrument may be followed by very serious results, such as a rupture of the bowel which might easily occur in the presence of a pathologic condition. An early diagnosis in diseases of this region is always desirable, for delay in making a diagnosis and proceeding with the proper course of treatment may jeopardize the patient's life or at least prolong his period of suffering unnecessarily. Hence it is obvious that the physician should acquaint himself with these instruments and be ready to use them when necessary in conducting an examination. The treatment

of this class of cases should always embrace, where possible, the removal of the cause of the disease. It is impossible to take up this important subject in detail, at this time, but it should be borne in mind that having a proper examination and established a diagnosis, the plan of treatment of the various diseases peculiar to this region will suggest itself. There are conditions which will yield to palliative or local treatment but (and though this may be considered a broad statement, it will be endorsed by men of much experience in this line of work), the great majority of these affections call for operative interference. Local treatment will afford relief in some cases, but not infrequently will this relief be but temporary, and eventually the patient will be compelled to submit to an operation in order to secure permanent relief. The best judgment of a physician may tell him at the time of examination that an operation is called for, but owing to the patient's timidity, together with his expressed determination not to submit to the knife, he (the physician) adopts palliative measures, notwithstanding the fact that he feels assured that the result of such treatment will not be satisfactory. The results of such methods are almost certain to be a dissatisfied patient, and to this patient as well as to his friends and acquaintances, a discredited physician. The physician owes it to himself and to his patient in such a case to state frankly the facts and what he considers the necessary treatment. If an operation is then declined and palliative measures insisted on, the burden rests on the shoulders of the patient and not of the physician.

The subject of reflexes is very engrossing and is one to which the medical profession is giving much thought and attention. It is a very important branch of the study of medicine and one that affects every division to a greater or less extent, but it is probable that those engaged in the special practice of gynecology meet the evidences of it more frequently than any others.

The following is quoted from Dr. Joseph M. Mathews' book on Diseases of the Rectum, Anus and Sigmoid Flexure, on reflex action. He says: "To have reflex action in any case, we must have (*a*) afferent impressions resulting from the influence of a foreign body or a pathologic state (such as inflammation or ulceration) acting as an irritant on afferent nerves, either in some part of their course or in the peripheric sites of distribution — whether such sites be situated on the external surface of the body or on some part of one or other of the mucous surfaces within the body. Thus it happens that the determining cause may in some cases be associated with painful impressions, though in many other instances such impressions may be more or less completely absent. Occasionally mental emotions may take the place of peripheric impressions as inciters of abnormal reflex phenomena. The most essential factor (*b*) is that the afferent impressions (painful or non-painful) produced by the irritant or pathologic state should pass from the nerves conveying them through a related nerve center which, from one or other cause, chances to be in a state of exalted activity and thence (*c*) be reflected along one or other set of efferent nerves, so as to produce effects of this or that order. As efferent nerves are distributed to glands and to muscles (both involuntary and voluntary), reflex phenomena may show themselves in one or other of the two principal directions: (1) by the modification of the quantity or quality of some secretion; (2) by the production of spasmodic contractions in certain muscles,

either of the involuntary or voluntary type."

From this it can be seen that disturbances manifesting themselves in and about the rectum may be referred from the generative organs and vice versa, since the spinal nerves from which the pelvic viscera, including the internal organs of generation, derive their supply are given off from the same point in the spinal cord. It is not unusual to find women who suffer from constipation, hemorrhoids or other rectal disturbance complain of pain or discomfort in the back, at the mouth of the womb, down the thighs, in the region of the ovaries, etc., and it is no less unusual to find those who may be suffering from disease in any of these regions who complain of pain or uneasiness about the rectum and anus and who are satisfied in their own minds that they are victims of rectal disease. Therefore it behooves the physician who is consulted in such cases to bear in mind the action of the reflexes, for it may be the means of pointing the way to a diagnosis which, without a knowledge of reflex action, might be, if not entirely impossible, at least difficult to make.

32 Adams Ave. W.

DISCUSSION

Dr. Samuel G. Gant, New York: Dr. McVeigh has practically covered fully the subject of proctology. No doubt disturbances in neighboring organs and distant parts are manifest in the rectum and vice versa. I have observed patients who thought they had some vaginal or uterine trouble when the disturbance was due to fecal impaction or a foreign body in the rectum or to anal fissure and others who complained of discomfort or pain in the rectum incited by the pressure of the uterus or a pesary. Inspection of the anus and buttocks should constitute an important part of the examination since by this method it can be at once determined if a patient suffers from fistula, fissure, venereal warts, projecting hemorrhoids or excoriation of the skin which indicates a chronic rectal discharge.

Pain is an important diagnostic sign in the more common rectal ailments but is not characteristic of cancer as some believe. If a patient complains of burning pain and the parts are moist it indicates a chronic ulceration; on the other hand, when pain is severe and continuous, an abscess is forming; but when it is agonizing, located in the sacral region and occurs shortly following stool, pain is pathognomonic of fissure.

In attempting a diagnosis, it is well to remember that 90 per cent. of all rectal diseases occur in the low inch and a half of the rectum, consequently it is important to carefully examine the anal canal.

Regarding fistulas I prefer division and the open method to their excision and suture and have found the injection of bismuth paste of little value. There is no danger of incontinence following division of the sphincter when it is cut at a right angle and the wound is drained with a small instead of being packed with a large piece of gauze which destroys fresh granulations, arrests healing and leaves a grove through which the feces will escape.

Once more I wish to congratulate Dr. McVeigh on his most interesting and thoroughly practical paper.

Dr. Louis J. Hirschman, Detroit: I simply want to add my word of commendation to Dr. McVeigh for the immense amount of good material in his paper. I want to emphasize one point, on the matter of rectal examination, spoken at and to and around by Dr. Gant, and that is the point that many people attempt to examine too high to find the pathology. The student will gain more by what he finds by withdrawing his finger than in any other way, and by working it around from side to side he will get all the information he wants, and it will cause less pain to the patient.

I take issue on one point, the point of wearing rubber-gloves. I am not afraid of any rectum, but I do have some consideration for my patients. I find by using a thin finger cot or glove I can save some pain to some sensitive patients—I can spare some of my patients with a sensitive rectum some pain.

There is the question of abstinence from pus. You will often find on entering a rectum a purulent discharge, so I felt that it was

better for me and my patient, and the other patients, to use rubber-protectors on my fingers wherever I could. It is perfectly useless to attempt to take up many of the points, except to emphasize them.

I want to say that papers of this kind, by men working in special fields, who will elaborate and indicate to the other men some of the easy means of making examinations, will create a better understanding, and somewhat narrow the wall between the proctologist and the gynecologist.

Dr. William L. Dickinson, Saginaw: I congratulate Dr. McVeigh on the many excellent points brought out in his paper. When Dr. Gant was telling of the gentlemen from Grand Rapids it brought to my mind the case of a man who called on me recently, which shows the necessity of making a careful examination of the rectum. He was in great pain at the time, and could only sit on the side of the chair, as pressure increased his discomfort. He said he had been sick for three weeks with piles and had been using Pyramid Pile Cure. On examination, pus appeared at the anal outlet, and when I attempted to introduce the finger into the bowel I felt something lying across it, and said to him, "There is something in here—it feels like a stick, or something of the kind." Having anesthetised the sphyncters with cocain I was able to introduce a Pratt bivalve speculum and dilate the muscles, and remove a piece of a wooden toothpick a little more than two inches long. Patient did not remember when he swallowed it. At the St. Paul meeting of the American Protologic Society a large bronze door knob was shown us that had been removed from a patient's rectum.

A Member: I think the fellow that comes in last can tell the biggest story, but I want to just tell this gentleman of an experience that a Dr. Wallace, in Manton, near Cadillac, had a year ago, when called to see a man who was somewhat demented. The patient had introduced into his rectum a stone, 4 inches in diameter, which was removed in no other way, and could not be, except by a pair of obstetrical forceps. To me it was one of the most remarkable things I ever heard of. I made an examination of the man's rectum, and by actual practice for years that man had succeeded in developing the rectum until it was so large that when it was perfectly clear he could introduce an ordinary door-knob or ordinary instrument of that size. So much for foreign bodies. We have the stone in our library up there, and it certainly is a great curiosity. In the examinaton of rectums I find it is a very difficult thing to make one and make it thoroughly without producing more or less pain, and I find that it is a very difficult thing, after you have examined the rectum, to be dead sure what you have. There is one thing, and some of the gentlemen that have spoken here today probably have had some experience in it, in trying to account for a pain in the rectum. You will find no hemorrhoids, you will find no fistuls, nor fissures, you find no enlarged prostate glands; in fact, you can find scarcely anything that can account for the suffering of some of these persons, and yet, with very little attention to the lower end of the spinal column you will find everything to account for it. Many persons will fracture the coccyx, and that many times brings on many rectal pains. I have had one patient who for a number of years was reduced to extreme emaciation and a great degree of nervousness, so much so that they thought the young man would have to be sent to the asylum, and have had all these symptoms promptly removed by the removal of the coccyx; so that I say in all these rectal troubles it is well not to forget the bony part as well as the muscular and the other tissues and soft parts of the anatomy.

Dr. J. A. McVeigh, Detroit, (closing): I have not much to say in closing this discussion, but I simply want to emphasize the necessity of making a careful and thorough examination in all these cases. If your examination is efficient and careful, the diagnosis will be fairly easy, and after you have made a diagnosis, as I said in my paper, the manner of treatment will outline itself. I am very much indebted to those gentlemen who have so courteously and kindly discussed my paper.

RESULTS OF TREATMENT AT THE MICHIGAN STATE SANATORIUM*

E. B. PIERCE, M.D.
Howell, Mich.

The results of treatment at sanatoriums, as usually given out, are very unsatisfactory and, as a rule barely noticed by the average practitioner. The tables presented and the terms used, while generally familiar, are not understood in their exactness, and, therefore, the facts presented do not receive merited attention. There can be no doubt as to the meaning of the terms "living," "dead" and "at work," so that it is hoped that this paper will be of some value to you in presenting the results ascertained from inquiry of the patients who have been at the Michigan State Sanatorium.

The policy on which the institution was founded demanded that the patients admitted be incipient or very early cases, but in no way has this been carried out, for it was at once ascertained that such cases do not desire treatment, and it is difficult to convince them that they have the disease; therefore such cases rarely appear, and they are the ones which receive the most good from treatment.

Moderately advanced cases come in large numbers, and even far advanced to some extent, so that now the policy is to receive all who appear favorable, and, if they prove otherwise, to return them to their friends as soon as they have obtained a knowledge of how to properly safeguard themselves. The earlier, less advanced cases are always given the preference.

Patients on admittance are classified in three divisions according to the severity of the disease. This is not done at once, but after the actual conditions existing have been ascertained by observation for several weeks; we believe this method is productive of the fewest errors. The National Association classification is used, but for general work we find the following divisions of great assistance:

EXPLANATION OF TERMS

Incipient.—Cough and all symptoms slight, possibly no symptoms except hemorrhage from the lungs, little or no rise of temperature, little or no acceleration of pulse, area of involvement slight, patient feels able to work.

Moderately Advanced.—Moderate amount of cough, expectoration and loss of weight, patient may or may not have fever, moderate amount of involvement, may or may not work full time, but is not fit to do so.

Far Advanced.—Severe cough, abundant expectoration, pronounced loss of weight, more or less fever, extensive involvement, unable to work.

The symptoms of chills, night sweats, pleurisy, pains and hemorrhage may or may not be present in any stage of the disease.

On discharge each patient's history is carefully considered, and if they have been under treatment thirty days or more, they are included in the classification.

They are classified as follows:

Apparently Cured.—All constitutional symptoms, with expectoration and bacilli, absent for three months. Signs of healed lesions.

Arrested.—Absence of all constitutional symptoms; expectoration, with bacilli, absent

* Read at the Forty-Sixth Annual Meeting of the Michigan State Medical Society, Detroit, Sept. 27-28, 1911.

or not; physical signs stationary or retrograding. This for at least three months.

Improved.—Constitutional symptoms lessened or absent, physical signs improved or unchanged; cough, with bacilli, usually present.

Unimproved.—All essential symptoms and signs unabated or increased.

Frequently lay and medical visitors inquire, How many cures do you have? And they appear surprised when we tell them that all we can expect from the treatment here is an arrest of the disease, and the condition of "cure" can be obtained only after much further persistent effort. A more accurate impression of reports would be obtained if the word "arrest" were substituted for "cure" in all cases.

After the proper classification has been made, a card is prepared for each individual. Cards allow for name, address, club affiliation, and address of relative; also for ten reports. For convenience, different colors are used: pink for incipient cases; yellow for moderately advanced; and blue for far advanced. These are

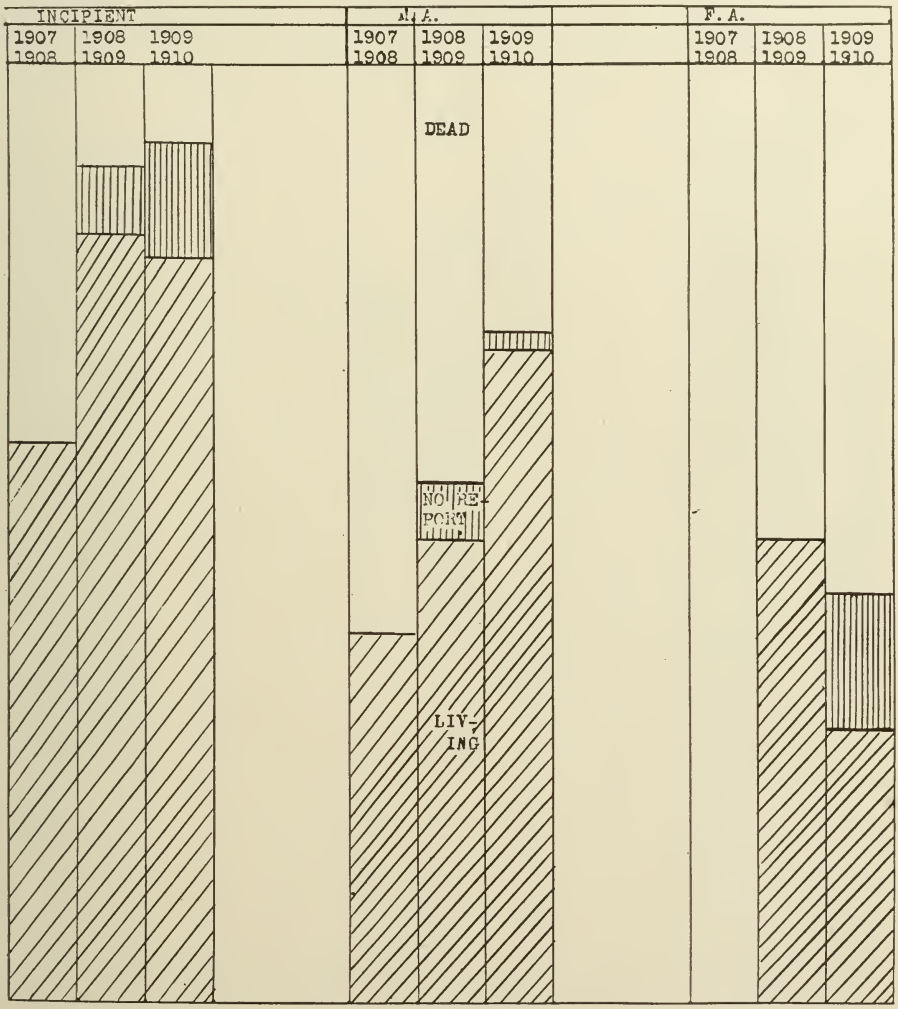


Fig. 1.—Shows proportion of "living" and "dead" July 1, 1910. Classified on admission.

filed by quarters; i. e., all discharged from January to April assigned to that quarter. Then, each year, an inquiry blank is sent to each person on the anniversary quarter in which discharged. If no reply is received from the first notice, another is sent, and then, if there is no response, the physician who sent the case to the institution is sought; and we have usually been able to locate the patient. The patient's lodge and church affiliations are also kept on record so that, if necessary, information may be obtained from them.

The results of the inquiry are fairly complete. Even at this early date some have been lost sight of, but that is not at all strange when the number of persons who have been keeping the records is considered, for the early records of any institution are usually the most incomplete.

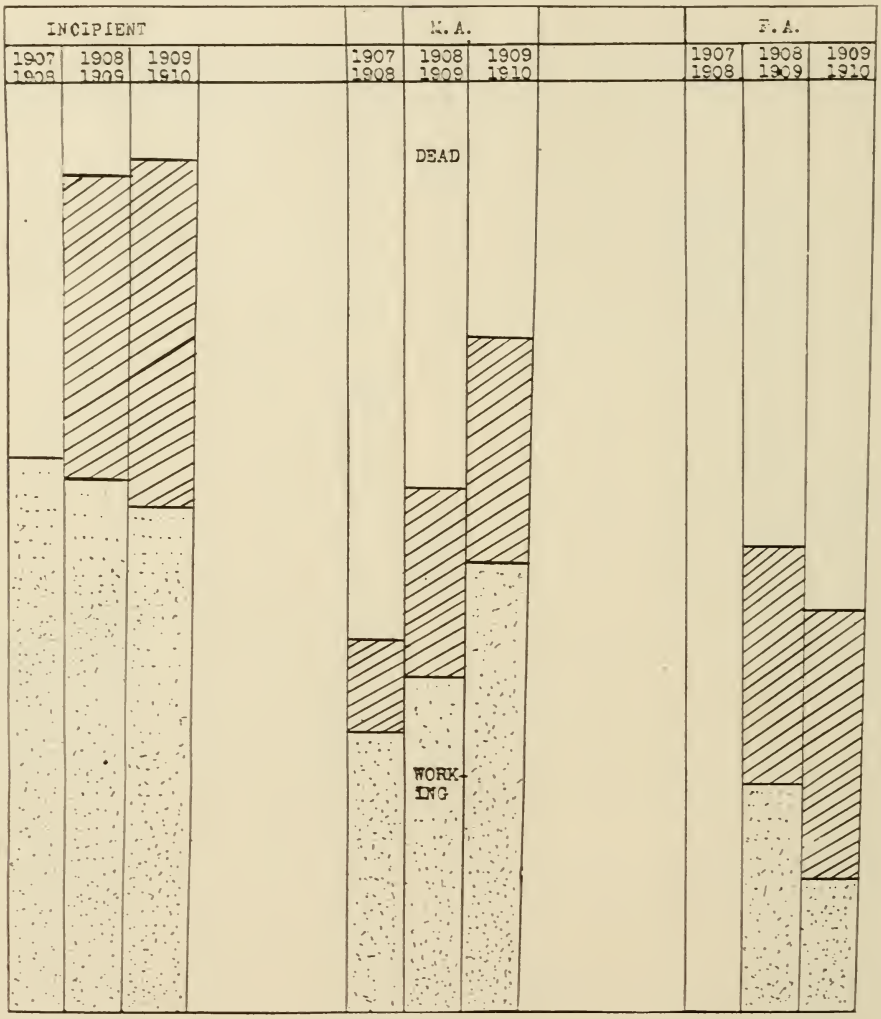


Fig. 2.—Shows the proportion of those working July 1, 1910. Classified on admission.

The inquiry blank asks if the patient is at work, whether as well as when leav-

ing the institution or not, condition of cough, hemorrhage, sputum, temperature and other ailments.

RESULTS AT OTHER SANATORIUMS

Other sanatoriums have published results from time to time. The most comprehensive and complete report at hand was given at the Sixth International Congress by Brown, covering twenty-three years of the history of the Adirondack Cottage Sanatorium. We quote from his report:

One thousand, two hundred and nine patients living out of 2,553. Of these 1,058, or 41 per cent. of the whole, are engaged in or able to do some work. That 87.5 per cent. of the 1,209 alive are still able to work. That the patients discharged apparently cured have a death-rate two or three times, the patients with disease arrested ten to five times that of the general population.

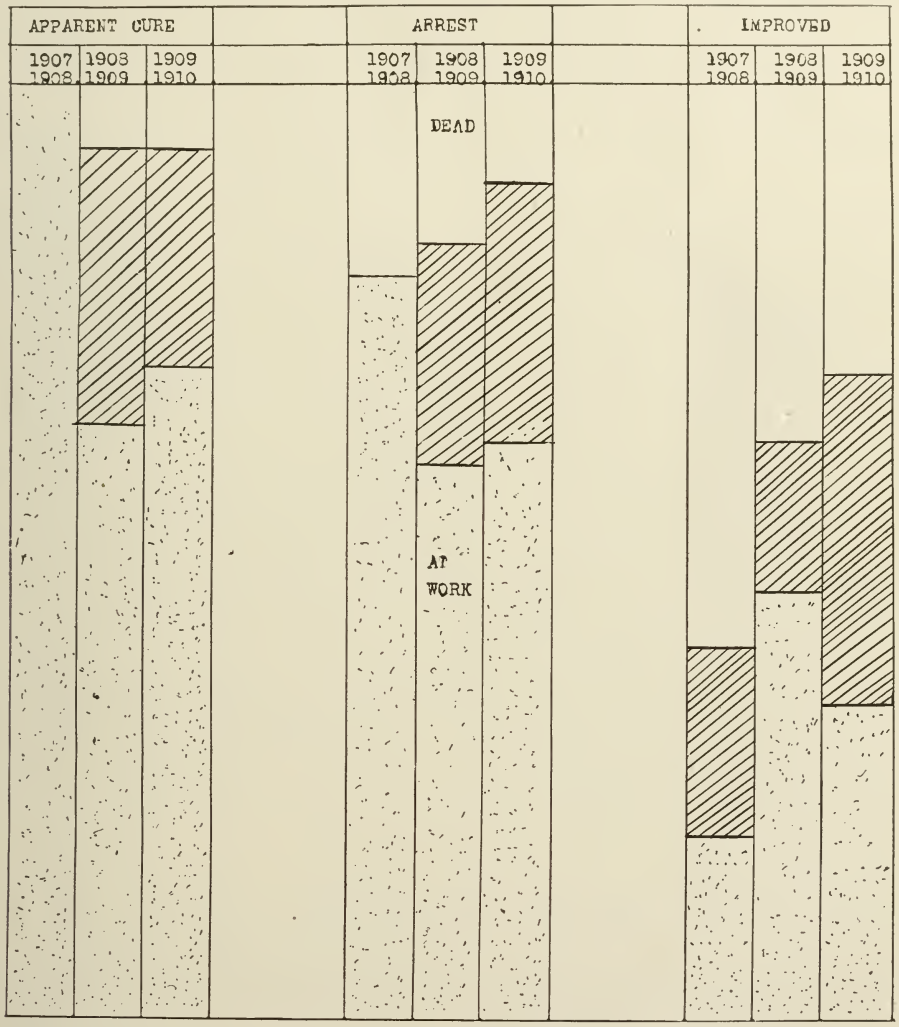


Fig. 3.—Shows proportion of those working, classified according to condition on discharge.

We cannot give you such a complete report, but a study of the 195 cases discharged to July 1, 1910, including:

Incipient to number	57
M. A.	105
F. A.	33
Total	195

shows that of these in 1911:

When only the "arrested" and "apparent cures" are considered, we find that 72 per cent. are able to work.

These results are graphically depicted on the charts shown.

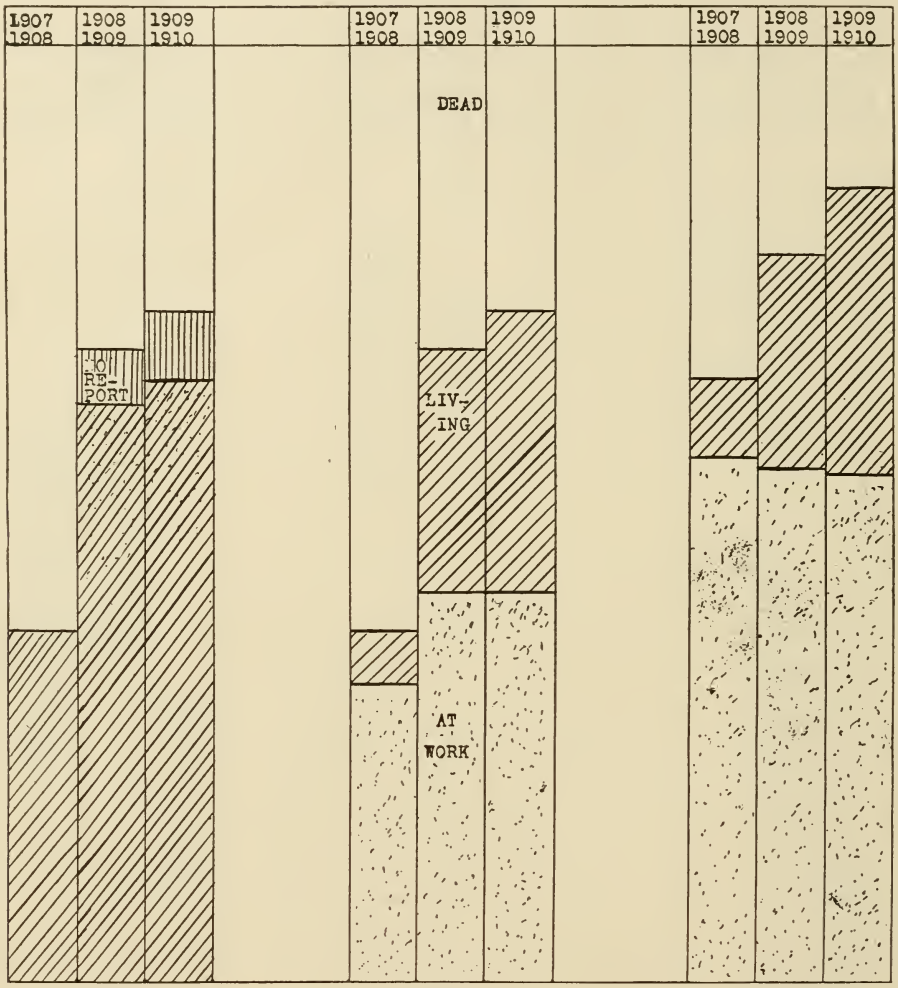


Fig. I. Fig. II. Fig. III.

Fig. IV.—Summary of Figures I, II and III. The last discharge number considered has been away from the sanatorium at least one year.

Sixty-seven had died; of the 128 alive, eighty, or 41 per cent. of the whole number—62.5 per cent. of the living—were able to do some work.

Our percentage of the whole number happens to be the same as at the Adirondack Cottage Sanatorium.

To sum up, this study shows us:

1. The great importance of keeping an after-history of our cases.

2. That definite results can be obtained from treatment, and

3. That the results obtained here compare favorably with older institutions.

DISCUSSION

Secretary Crosby: I would like to ask Dr. Pierce if he has trouble in finding room for all the patients that are sent there? I would like to ask also if some of them had to be placed on the waiting list:

Dr. E. B. Pierce, Howell: A year ago the state had six new cottages built, which increased our capacity from forty-six to eighty, but the appropriation for maintenance for that same year was not increased, so that while we had a capacity for eighty we were unable to use it, and we went through the year with an average of fifty-five cases. This year the legislature has given us a larger appropriation for maintenance, and we believe that we have sufficient funds to run the institution to its full capacity. I think by December we shall have as many as we can care for. Just now we are accepting every case that applies which appears at all favorable, as we have empty beds. A little later we shall have still more room, as we are using one of the cottages that we should use for patients to house the help.

The other question asks to state the danger to the community of cases which do not cough or raise. I suppose that question covers the arrested cases as well. It seems to me that, with the proper training such as we endeavor to give our patients at Howell and with the knowledge of the disease that we try to instill into their minds, they ought to be safe when they return home, and therefore, not dangerous to the community. I say they ought nto to be, but you know as well as I do how hard it is for people to live up to what they know is right, and you all know that a man or woman who is on the street will cough and expectorate there rather than use the sputum box. One of our patients came to Detroit a while ago and got on a crowded street car. He was obliged to expectorate, so he used his box. He says that the car was emptied before it had gone another block, and, because of this incident, he used the street thereafter in the same manner as the rest of the public. It is hard for the individual to fight against the opinion that pervades the public, that is, that he is a dangerous individual, even though he knows that he is doing wrong by promiscuous spitting.

A certain dentist asked the other day if I believed there was any danger to him in treating sanitarium patients. I told him that it seemed to me that the patients from the sanitarium were more safe than the patients from the village or farm because when they were obliged to cough, they let him know and did not cough in his face, while ill people from other sections are not careful and cough indiscriminately.

There is no danger from the case which does not cough or raise, and there should be no danger from the arrested cases.

In presenting this report to you today, we do not wish you to lose sight of the fact that we consider the institution to be of the greatest value as an educational factor. We are not attempting to "cure" people in the ordinary sense of the word, but we are chiefly attempting to teach them to take care of themselves so that when they go home they may be able to continue the treatment and not be a menace to the community.

A LOCAL ISOLATION HOSPITAL

A. C. Haven, Lake Forest, Ill. (*Journal A. M. A.*, January 27), says that every community should provide a hospital for contagious diseases, as treatment of such cases in private houses is very unsatisfactory. The location should be secluded and the building planned for the purpose, one story and fire-proof, adapted for isolating not only the sexes but different diseases, simultaneously, with accommodations for exchanging clothes for physicians, for disinfecting, cleansing, etc. The caretaker should occupy a separate cottage, which should contain in its basement the heating plant for the entire hospital and every ward separately. Each ward should have its own dishes and outfit. The grounds should be attractively laid out, allowing for convalescents such outdoor privileges as can be permitted. The term "contagious" or "pest" house should be replaced by more euphonious terms. These are the ideals in substance which have inspired the trustees and architect of the Lake Forest Isolation Hospital, the elevations and plans of which are illustrated. It is the only hospital in the north shore suburbs of Chicago exclusively for contagious diseases.

The Journal of the
Michigan State Medical Society
Published under direction of the Council.

PUBLICATION COMMITTEE:
A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
W. J. DuBOIS, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek.
(Ex-Officio)

EDITOR.
WILFRID HAUGHEY, Battle Creek.

EDITORIAL COLLABORATORS:
J. V. White, Detroit, 1st District.
....., 2d District.
....., 3d District.
C. E. Boys, Kalamazoo, 4th District.
T. De Witt Gordon, Grand Rapids, 5th District.
C. B. Burr, Flint, 6th District.
Daniel Conboy, Bad Axe, 7th District.
B. B. Rowe, Saginaw, 8th District.
Robert E. Wells, Traverse City, 9th District.
F. E. Ruggles, Bay City, 10th District.
V. A. Chapman, Muskegon, 11th District.
E. H. Webster, Sault Ste. Marie, 12th District.
C. M. Williams, Alpena, 13th District.
Reuben Peterson, Ann Arbor, 14th District.

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A.M., M.D., Editor, 24 West Main Street, Battle Creek, Mich.
The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

Subscription Price $2.00 per Year, in Advance.

MARCH

EDITORIAL

FORTY-SEVENTH ANNUAL MEETING

Notice is hereby given of the forty-seventh annual meeting of the Michigan State Medical Society to be held in Muskegon June 19 and 20, 1912. All county societies not having elected delegates should do so at once and send the names to the secretary that the proper credentials may be issued.

All members are invited to attend this meeting. The profession of Muskegon is making great effort to entertain us and issues a cordial invitation to every member to be present. Dr. John B. Roberts of Philadelphia will deliver the scientific address before the general session. The new section on diseases of the eye, ear, nose and throat will hold its first session this year and the officers are pleased to announce that Dr. Otto Freer of Chicago will be present and give us a paper.

Notice is hereby given, also, of the fourth annual meeting of the County Secretaries Association, which will be held the afternoon of June 18, in Muskegon. It is urgently requested that all county secretaries who possibly can be present at this meeting as the work of the county secretaries is to a large extent the life of the Society. The County Secretaries Association is organized for the benefit of the county societies. In cases where it is possible county societies would honor themselves by sending their secretaries to this meeting.

The program for the annual meeting of the Society and of the Secretaries Association is now being made up and anyone wishing a place should correspond with the respective secretary at once. For a list of the secretaries see advertising page 2.

ETHICS

III. THE TONGUE

The duty of man to man, the duty of brother to brother is exemplified in no walk of life more than in the medical profession. The practice of medicine at best is difficult enough; the responsibilities and cares of the doctor in properly attending his flock are burdens indeed, without multiplying them. The Medicolegal Committee in its last report has this to say: "Our attorneys believe that every threat of malpractice arises from the jealousy of a rival physician. While we do not hold such radical opinions, we do know that some other physician is at the bottom of

very many suits and threats of suits, and can prove it in many instances." [1]

How frequently in conversation do we hear one doctor speak disparagingly of his neighbor. How frequently does one doctor speak lightly of another to laymen. How frequently, when called to a new patient and told of the previous treatment, does the doctor answer by a shrug of the shoulders.

In times happily past—a generation or so ago—it was the custom for doctors to fight, to belittle each other. Those were the days of the family physician in all his vengeance, when each doctor had his following in the community. The patients would swear by their doctor and would admit no good in his competitor. In those days doctors were competitors.

Now we are not competitors; we are confrères; we are brothers. Years ago, when called to see a patient who had been under the care of another, the doctor promptly and ostentatiously threw his predecessor's medicine out of the window —he had few good words for the other doctor.

The condition of the profession is better. We do not do these things so much now; but has the old-time custom entirely disappeared? The inference from the report of the Medicolegal Committee is, obviously, no.

For two years past the Michigan State Medical Society has been conducting the defense of its members in civil malpractice cases. We have no condition written in fine print in the policy which will allow us to decline to defend our members as has been done by some commercial companies to the sorrow of the insured. We defend any civil malpractice suit within the statute of limitations, unless the member was in arrears for dues when the cause of action arose.

Our defense plan is not entirely a selfish one. We are not defending our members for the sole purpose of giving them defense at cost and dividing that cost among the whole of us. Our plan is an educational one primarily and ultimately. Malpractice suits are altogether too frequent. The law of malpractice is poorly understood by the profession, the laity and the lawyers. The defense is costly and lawyers know that the unprotected doctor will frequently settle rather than stand the expense of suit and the publicity. Too many suits are threatened with no other object but settlement. We aim to teach the law of malpractice and remedy this condition.

By uniting in mutual defense we hope to encourage closer and more brotherly feeling, and by this association better fit ourselves to care for our people. Every malpractice suit brought against any member of our society costs each one of us a certain sum for its defense; every malpractice suit brought against a member is, to the uninformed laity, an unfavorable reflection not only on that member but every one of us who aids directly or indirectly in his defense, whether there are grounds for suit or not. Our defense plan will teach our members what we are required by law and custom to do for our patients.

There are two ways in which we can lessen the number of malpractice cases, an ethical and economic desideratum: First, each one should make himself competent to handle any case he accepts; second, we should so act that we may never be, even unknowingly, the cause of starting a suit against another.

This work of the Michigan State Medical Society (and this same work is being done in over twenty other states), is principally a work of education. It is a practical demonstration of medical ethics.

---

1. The Journal M. S. M. S., February, 1912, p. 135.

ERRATA

Printers, as well as editors, sometimes make mistakes. In the February JOURNAL the printer "corrected" two of our "mistakes." Page 127, second column, "editorially" should be "editorial;" page 133, first line, "1912" should be "1911."

THE ETIOLOGY OF ADENOIDS

Aside from the causes of adenoids in children ordinarily given, such as unhygienic sleeping conditions, underfeeding, etc., there are other causes which the writer believes frequently exist. It is a well-known fact, widely published and discussed that adenoids cause mouth-breathing. I have never, however, seen or heard a statement concerning the fact that very often it might be just the other way, namely, that mouth-breathing is the cause of the adenoids.

In my work as medical inspector and examining physician in the public schools of the city of Muskegon, I am more and more impressed with this mouth-breathing in young children as a cause of adenoids. In the very young school children it is noticeable that a very large percentage of them are mouth-breathers. Not the typical "mouth-breather" as this has come to be known in connection with large masses of adenoids in the vault of the pharynx or very large faucial tonsils, or both, but rather the atypical mouth-breather. The child can breathe through the nose if it will, but it simply does not. It has never been taught to do so and perhaps finds it a little easier at times to breathe through the mouth than through the nose. In this way a habit is established, and the child goes on breathing through its mouth more and more. This mouth-breathing causes a high palatal arch, sets up irritation of the mucous membranes of the pharynx with consequent congestion and later frequent inflammations. As a consequence this passes on into a chronic congestion and thickening of the mucous membranes and enlargement of tonsils. The non-aeration of the nasal passages and naso-pharynx retards the development of the nasal passages and enhances the growth of the pharyngeal tonsil. Thus is established a vicious circle. Proper instructions given early in the home or in the kindergarten or in very early grades in the school directing the child to a proper use of the nasal passages in breathing would in my opinion avoid a great many cases of adenoids which are brought to a stage where operation is necessary for relief a few years later.

Another factor in the cause of adenoids the writer believes to be that great insidious evil, syphilis, manifesting itself through heredity, possibly in the third or fourth generation. These cases the writer believes to be largely those accompanied by the large lymphatic tonsils and will frequently be seen with the Hutchinson's teeth. Perhaps not the typical Hutchinson's teeth in many cases, but the atypical teeth.

It is stated that in some institutions for the feeble-minded the Wassermann reaction is positive in 20 per cent. of the inmates. Without any definite knowledge that it is true the writer believes that these 20 per cent. will be found to have adenoids or to have had them in childhood or infancy.

The writer has no definite laboratory scientific data on which to base these beliefs but feels justified in advancing them through his convictions arising from extended clinical observations. V. A. C.

IMMIGRATION AND THE INSANE

For a century a stream of immigration directed to the shores of America brought with it the lame, the halt, the blind, the

the leper, the syphilitic, the trachomatous, the imbecile, the insane, the criminal, the anarchist from European countries. When alarm was sounded, about two decades ago, after the discovery that from 50 to 60 per cent. of the insane population in eleemosynary institutions in the United States was of foreign birth, statesmen and legislators very properly cast about for means to stem the tide of degeneracy which such an influx entails. Stringent laws restricting immigration were enacted, and as might have been predicted, the pendulum has swung widely to the extreme of protection. This is especially true as concerns the insane.

The object of such restrictive laws must be first, the protection of the public health; second, the protection of the public pocket book. Insanity notoriously affects the earning capacity of the individual and no question can exist of the beneficent working of any law which hedges about with proper safeguards the admission of those to the United States who would presumably or possibly in time become charges on the public. Unfortunately, however, for those of independent means or wealth, particularly those living on the Canadian or Mexican borders of the United States, no latitude is given to the Department of Commerce and Labor to admit the insane for treatment in this country at private expense.

Section II of the Immigration Laws and Regulations expressly excludes from the United States aliens who are insane, those who have been insane within five years previous to the time of application for entry, and those who have had two or more attacks of insanity: this without reference to the financial ability of the individual or his friends to pay for hospital care, and notwithstanding the fact that the question of public support or safety cannot under the circumstances arise.

Section 26 of the Statute confers on the Secretary of Commerce and Labor discretionary power to admit invalid aliens under bond but excepts aliens with mental defect. He is authorized to admit to hospitals of the United States certain cases of "physical disease" as distinguished from mental, but in the language of an official of the department, the statute seems "to contemplate the absolute exclusion of the mentally afflicted."

In the name of justice, under high heaven why, we may pertinently inquire, may a case of chronic and perhaps incurable rheumatism be admitted for hospital care in the United States and why must a case of insanity due to pre-existing rheumatism be excluded? A case of interstitial nephritis without mental symptoms may be admitted: with mental symptoms must be excluded. What if mental symptoms develop within a week or fortnight in either case? Shall the patient be promptly deported? Why may a woman suffering from a complication of pregnancy for which surgical care is necessary be admitted and why must a case of puerperal insanity be excluded? Why may tabes dorsalis—locomotor ataxia—affecting the spinal cord be admitted and why must an allied condition affecting the brain — paretic dementia — be excluded? Has the old-time absurd impression as to the nature of mental infirmity, that it is something apart from disease in general, to do with such extraordinary legislation? It is high time that the handicap, laid by law on the one hand and superstition on the other, be removed from those to whom the illness, insanity in any form, is a sufficient burden.

Insanity is a physical malady in the sense that its existence implies disorder of a physical organ, the brain. Why look askance at diseases there situated, and frankly on those of related anatomic

organs, the lungs, the heart, the stomach, the kidneys? From a physician's point of view, the admission to the United States of one person suffering from acute venereal infection, displaying no outward and visible signs of illness, is potentially a greater menace to public health than that of a score of insane patients coming for private hospital care; and such admissions are doubtless of daily, possibly hourly, occurrence at every entry port.

C. B. B.

SOCIETY NEWS

BAY

The annual meeting of the Society was held at the Wenonah Hotel, Monday evening, December 11, 1911.

At 6 o'clock. 37 members and two guests sat down to a splendid dinner, as guests of the president, Dr. R. C. Perkins. After taking their fill of the good things, the members listened to an informal talk on "Fractures," by Dr. E. B. Smith, of Detroit.

The committee having in charge the county poor contract were authorized to go ahead and incorporate the society.

The program committee recommended that the Society hold weekly meetings, and have reviews of leading articles in the prominent medical journals instead of regular papers, every second meeting being devoted to the *Journal of the American Medical Association.*

The recommendations of the committee were adopted.

The question of an annual address by the president was discussed, and the society decided to make this a regular part of the annual meeting.

The following officers were then elected:

President, Dr. J. William Gustin; vice-president, Dr. Floyd H. Randall; secretary-treasurer, Dr. H. N. Bradley; delegate to state society, Dr. R. C. Perkins; alternate, Dr. E. A. Hoyt.

On December 20, at 8:30 p. m., a special meeting of the Society was held in Dr. Baker's office. Mr. Gillett, of Gillett & Clark, attorneys, read articles of incorporation for the Society, as prepared by him. The articles were then accepted as read, and all members present attached their signatures thereto. Mr. Gillett then took charge of the articles to have them properly recorded.

A number of interesting cases were reported at the meeting of January 15. Dr. W. R. Ballard reported a case of retroperitoneal hernia with appendicitis and two obstetrical cases, one of contracted pelvis, in which he did a cesarean section with good results; the second a difficult case, in which section should have been done but was not. The latter had a much more difficult time, and the baby was dead. In the former, both mother and baby came out nicely.

Dr. Hoyt and Dr. Hauxhurst each reported a fatal case of eclampsia, the latter being one he saw in consultation.

Dr. Tupper reported a case which showed symptoms of obstruction, but refused operation for some time. Finally, at operation, the case showed a circumscribed cancer closing up the sigmoid. No symptoms had ever been noticed up to this attack.

Dr. Herrick reported a case of convulsions in a woman of 74.

Dr. Mary Williams reported a case of pregnancy and confinement going on uneventfully in spite of the fact that the urine boiled practically solid with albumin.

Dr. Tupper reported a case of cure of chronic Bright's disease following pregnancy.

President J. William Gustin then made some remarks relative to the general welfare of the society, urging members to be extremely careful in the treatment of brother members of the society and others. He hoped there would be no "sore spots" in any member this year.

The president's annual address was then read by retiring President Dr. R. C. Perkins. Following this, Dr. J. W. Hauxhurst read a review of a monograph on "Typhoid Vaccination in the Army."

President's Annual Address

(Abstract)

The doctor did not receive notice, and was not prepared for an address at the annual meeting, but thinks that, as the custom prevails in other societies, we should fall in line. During seven years' membership in the Society.

the doctor has been secretary two years; vice-president two years, and president one year, and thanks the society for honors shown him.

The membership has increased during the past seven years, and interest is growing in society as well as public health matters. Medical inspection of schools has been started during the past year, and the work will no doubt proceed as planned, in spite of difficulties which have arisen.

The Civic League has been assisted in free dispensary work, and much good accomplished in that way.

Three unsuccessful attempts to obtain the contract to care for part of the county poor shows that we lack politicians in the society. We have some members more or less skilled in the art, and one or two changes on the poor board would help to simplify matters. It is hoped that efforts will be renewed in the fall.

A home for the society is greatly needed. Present dues preclude the buying of a building. (Will some of our wealthy members take notice?) Suitable rooms might be rented. The matter should be considered during the year. A library would naturally follow the securing of a home.

The *Bulletin* has been established on a pretty good footing. All the work has fallen on the secretary, and in the future, assistants should divide up the work.

In the Hospital Training Schools we have attempted to give more thorough courses to the nurses and secure more system in the curriculum with some success. A committee has been recently appointed to arrange with the hospital management for a higher standard of education in applicants for the training schools.

The practice of medicine is gradually undergoing a change, and we are entering upon an era of remarkable changes along certain lines. The widening field of vaccine therapy is opening, and we are realizing the part played by the internal secretions in health and disease.

The programs as planned for the year ought to keep us abreast of the times, and be the best we have yet had. Every member should do his best to make them a success.

Any criticism that the course of the Society has been directed by a few is unfounded. The work has been carried on by those most interested and with no selfish motive. Let us continue to keep up our standard and standing as one of the best county societies in the state.

Secretary's Annual Report

Your secretary started the year with great ideals for building up the society, but is unable to report the growth which was hoped for; however the enrollment will show a net increase during the past year.

At the close of last year, the number of active members was forty-seven. We have lost one member by death, and gained four, making the present membership fifty, a net gain of three over last year. We have two honorary members. Total fifty-two.

Fifteen meetings have been held and fourteen papers read. The average attendance has been seventeen.

Of the present membership, eleven have not been present at a meeting. Two members have been present at every meeting this year. Two have missed but one, and seven have been present at ten or more.

The programs during the year have been general in character as last year, consisting of one paper and the discussion for one evening. Three guests from out of the city have read papers. On March 27, Dr. E. B. Pierce, of Howell, read a paper on "The State Sanitarium at Howell." At this time the meeting was held at the Wenonah Hotel, a banquet preceding the paper. On October 24, the meeting was held at the National Guard Armory, at which time Dr. W. T. Dodge, of Big Rapids, read a paper on "Vaccine Therapy." This evening we have with us Dr. E. B. Smith, of Detroit, who will give us a talk on "Fractures."

The society has this year taken up medical inspection of schools, and through a committee has inaugurated a system which will be tried for a year at least.

During the year the Society and profession of the city lost one of its oldest and most respected members. Dr. Isaac E. Randall died on January 20 of erysipelas after an illness of one week.

By a vote of the Society, the office of secretary and treasurer was combined, the by-laws being amended accordingly. The by-laws were also amended to make any legally registered physician eligible to membership, omitting the words "practicing non-sectarian medicine."

Eight numbers of the *Bulletin* have been issued during the year.

We should not forget that there are many eligible physicians in Bay, Arenac and Iosco counties who are not enrolled in our Society. They should be put on the rolls next year.

H. N. Bradley, Secretary.

BERRIEN

Berrien County Medical Society met at Library Hall, Benton Harbor, Thursday, February 8. A paper presented by Dr. Penoyer of South Haven on "Treatment of Typhoid Fever," based on 400 cases occurring in South Haven epidemics, was highly appreciated by all and led to some very interesting discussion. Dr. Penoyer laid special emphasis on "ice water injections into colon in extreme temperatures that were not reduced by bath and cold packs applied externally," and cited several cases treated in that way with gratifying results.

Dr. A. H. Andrews of Chicago presented a paper on "Trifacial Reflexes." This paper, presented in the doctor's pleasant, convincing way, was full of meat and emphasized the necessity of getting at the cause of obscure symptoms which might be produced by disease along the course of this nerve of many functions and wide distribution. There were twenty-four physicians present.

H. G. Bartlett, Secretary.

Berrien County Medical Society met at Hotel Whitcomb. It being the regular annual meeting, reports were read by the secretary and treasurer which showed the society to be in a healthy, but somewhat comatose, condition. Election of officers followed and the following were elected:

President, Dr. L. A. King, Baroda.

Vice-president, Dr. N. A. Herring, Benton Harbor.

Secretary, Dr. Henry G. Bartlett, St. Joseph.

Delegate, Dr. Edward J. Witt, St. Joseph.

Alternate, Dr. F. M. Kerry, Benton Harbor.

Member medico-legal committee, Dr. W. L. Wilson, St. Joseph.

After a six-course dinner, the meeting was called to order by Vice-President Dr. N. A. Herring, who introduced State Secretary Dr. Wilfrid Haughey and Dr. Rockwell, councilor for this district, as speakers of the evening. Dr. Haughey made a strong appeal to the profession for closer union all along the line, explaining the medical defense and plans for the state journal for the future. Dr. Rockwell also spoke along the same line and the establishment of a greater fraternal spirit among medical men. Six new members were elected.

Adjourned to meet the second Thursday of each month during the year.

H. G. Bartlett, Secretary.

BRANCH

At the annual meeting of the Branch County Medical Society, held Jan. 16, 1912, the dentists of the county were invited to participate in the program. We had an excellent meeting, good program and good attendance. About every dentist in the county was present. After the business meeting the following officers for the year 1912 were elected:

President, Dr. W. H. Baldwin, Coldwater.

Vice-president, Dr. Bert Culver, Coldwater.

Secretary-treasurer, Dr. Samuel Schultz, Coldwater.

Member of medico-legal committee, Dr. H. W. Whitmore, Quincy.

The following program was then carried out:

"Cooperation Between Physicians and Dentists," W. A. Griffith, M.D., Coldwater.

Discussion led by W. D. Campbell, D.D.S., Quincy, and C. C. Sears, M.D., Quincy.

"Oral Evidences of Disease," E. A. Cook, D.D.S., Coldwater.

Discussion led by P. H. Gunsaullus, M.D., and E. W. Ryan, D.D.S., Bronson.

"Responsibilities of a Physician from a Dentist's Standpoint," G. S. Hadley, D.D.S., Coldwater.

Discussion led by A. G. Holbrook, M.D., and N. E. Phelps, D.D.S., Coldwater.

"Anesthesia, Local and General," Ray Whitmore, M.D., Quincy.

Discussion led by R. E. Patterson, D.D.S., Coldwater, and E. E. Hancock, M.D., Girard.

No special mention can be made of any particular paper, as they were all good and every one present took part in the discussions.

S. Schultz, Secretary.

GRAND TRAVERSE

The regular monthly meeting of the Grand Traverse-Leelanaw County Medical Society was held at the home of Dr. G. M. Johnson on the evening of January 16. The minutes of the last meeting were read and approved. Dr. J. M. Wilhelm gave a report of the program committee, outlining the program for the ensuing year.

Two letters were read from the public health committee. It was decided to appoint three members for the local public health committee.

Dr. Sara Chase read a paper on "Spondylotherapy," followed by a general discussion.

Dr. O. Chase gave a talk on his recent visit to Rochester, Minn.

The chairman appointed a committee to investigate a hospital, to report at the next meeting. After the meeting adjourned, Dr. Johnson invited the members to the dining room, where an elaborate luncheon was served.

R. E. Wells, Secretary.

The regular monthly meeting of the Grand Traverse-Leelanaw County Medical Society was held on the evening of February 6, in Dr. Lawton's office. Thirteen members were present. Minutes of the last meeting were read and approved. Dr. R. Bailey of Traverse City was admitted to membership. It was decided to try to procure a speaker from one of the adjoining states to give a public lecture on some public health question.

A motion was passed to the effect that the Society requests the board of health of Traverse City to ask that the ice which is being cut on Grand Traverse Bay be examined to ascertain if it is safe for domestic use. Dr. Thurtell gave a talk on "Malignant Edema." Drs. Gauntlett and Lawton each presented interesting cases, one being a case of situs transversans. The meeting adjourned to meet at Dr. Thurtell's office next month.

R. E. Wells, Secretary.

INGHAM

Jan. 11, 1912. Dr P. J. Livingstone of Detroit presented a very interesting paper on

Ocular Disorders as Symptoms of Systemic Disease

which was very ably discussed by Drs. L. W. Toles, A. E. Owen, H. S. Bartholomew and Samuel Osborn. This paper was meant for the general practitioner and emphasized the fact that many ocular disorders, particularly eye-strain accompanying headache, are not so constantly as is commonly thought the result of errors of refraction but, on the contrary, it is very commonly only the end-symptom of a remote toxemia, and in this connection he pointed out how readily one could understand why remote toxemias might demonstrate their end-results in the ocular structures when one remembers the close anatomical and embryological relation of the eye to the brain, which organ he classified as a highly sensitized end-organ of the brain.

He further laid particular stress upon the necessity for ocular examination as an aid to diagnosis in many remote disorders, particularly those involving the cardiovascular system, and cited several cases which demonstrated the early detection of nephritis and other cardiovascular complications by examination of the fundus oculi.

Jan. 26, 1912. Dr. C. V. Russell of Lansing addressed the Society on the subject of

Saturated Solution of Epsom Salts in the Treatment of Pus Infections

He reported a number of cases in which this treatment had been used in the form of wet hot dressings and in the irrigation of pus cavities and infected uteri with considerable success and advised further trial of the method. He said the principle of treatment was based on osmotic action of Mag. Sulph. solution and selective action of the tissue cells by which Mag. Sulph. is rejected and a stream of lymph is withdrawn from the infected tissues, thus preventing absorption of toxic material. He stated that capillary action of wet dressings was increased by concentrated solutions, that granulation tissue was not retarded or destroyed by the action of concentration of Mag. Sulph. and that such solution was antiseptic because of concentration and high density.

Jan. 30, 1912. Dr. R. E. Miller read a paper on "Ectopic Pregnancy," which was thoroughly discussed by Drs. A. D. Hagadorn, J. G. Rulison, G. F. Bauch, L. W. Toles and C. V. Russell.

At the last meeting of the Supervisors of Ingham County it was recommended that $6,000 be appropriated for a tuberculosis sanatorium. Of this amount Ingham County is to give $4,000 and the City of Lansing $2,000. This action was obtained largely through the efforts of Dr. L. W. Toles and will be submitted for popular vote at the spring election. The president of Ingham County Medical Society, Dr. Bret Nottingham, in a communication to the Society says, "This is a matter in which we as a Society should take an active interest and by means of public meetings and other legitimate forms of persuasion endeavor to secure as favorable a vote on this proposition as possible. I have therefore considered it advisable to appoint a special committee to have charge of the tubercular campaign in this county, with power to

act for this Society, and have named upon that committee Drs. L. W. Toles, O. H. Bruegel and S. H. Culver." This communication was unanimously approved by the members present.

M. L. Holm, Secretary.

KALAMAZOO

Jan. 10, 1912. Dr. J. T. Geraghty, of Baltimore, gave a clinic and read a paper on

The Value of Cryoscopy in Kidney Conditions

(Abstract)

The estimation of renal function can be determined by specific gravity tests, cryoscopy and the time of elimination of dye substances. Cryoscopy is an elaborate method, and the results are about the same as the older specific gravity tests.

Of the several different dye substances used for the elimination test, phenolsulphonephthalein is believed, by Dr. Rowntree and myself, to be the best. This is a reddish powder simliar to phenolphthalein. It can not be precipitated. It is rapidly excreted, 50 per cent. being recovered in fifty minutes.

In chronic nephritis, functional tests have failed, since phthalein tests show only tubular activity rather than glomerular. Lactose, on the other hand, is secreted by the glomeruli. If phthalein is not eliminated in one or two hours, the patient can live but a short time. In interstitial nephritis, the test works well, as we have shown by a case where ordinary urinalysis showed normal urine, but the functional test showed much delay in excretion. The patient died soon, and a post-mortem showed marked findings of interstitial nephritis.

In surgical cases, the test is most valuable, and especially cases of obstruction as in enlarged prostates. The retention lowers the functional activity, although the other tests will be normal. In 200 cases of enlarged prostate the test has proven its value in all.

All tests for functional activity have been used in unilateral disease by catheterizing the ureters. Simple palpation cannot determine the condition of a kidney, even though the hand is in the abdomen. In cases where but one ureter can be catheterized, the other side can be allowed to run across the bladder. If one side is diseased, the well side will overfunctionate so that the combined activities of the two may be that of two normal kidneys. If both are diseased, there will be decreased function.

In tuberculosis of the kidney, one kidney only is usually primary. If the second kidney is involved later, it ordinarily does not come by extension from the first, but through the blood. Clear urine may come from diseased kidney, and cloudy urine from a healthy one; e. g. hypernephroma and localized tuberculosis. An infected kidney will show retarded function.

In employing this test, six milligrams of the dye are put into one c.c. of normal salt solution, and injected into the lumbar muscles. Dye appears in urine in ten minutes. The urine is then collected for one hour, by catheter or voiding. Fifty per cent. should be recovered in one hour. At the end of the hour the urine is diluted to one liter, and compared to standards in colorimeter. A quantitative test may thus be made with ease and accuracy.

This test shows impending uremia, and is of more value than those for specific gravity, albumin, urea, etc., as ordinarily employed. Catheterization of ureters is unnecessary except in unilateral cases. The drug is stable, not changed by heat, and can be bought ready for use, in ampules.

C. E. Boys, Secretary.

MUSKEGON-OCEANA

Regular meeting of the Muskegon-Oceana County Medical Society was held Friday evening, Jan. 26, 1912, at 8:30 p. m., at the residence of Dr. R. G. Olson at Muskegon Heights. Members present: Drs. Geo. S. Williams, I. M. J. Hotvedt, W. P. Gamber, W. A. Campbell, Jacob Oosting, J. T. Cramer, A. A. Smith, R. G. Olson, F. B. Marshall, P. J. Sullivan, R. I. Bussard, Alfred Brocke, and V. A. Chapman.

Communications were read from Dr. Dixon, secretary of Michigan State Board of Health regarding the doing of the Wassermann reaction at the State Laboratory free to physicians of Michigan.

A communication was read from Dr. N. DeHaas of Fremont requesting that he may be permitted to become a member of this society and given the privilege of paying local dues.

It was moved, seconded and carried that Dr. DeHaas be extended an invitation to join this society.

Dr. Campbell moved, Dr. Olson seconded that in view of the fact that Dr. DeHaas is already

a member in good standing of the Newaygo County Medical Society and Michigan State Medical Society, the regular order for application and election for membership be suspended and Dr. DeHaas be immediately elected to membership. Carried unanimously.

After some discussion concerning the hospital for tuberculosis cases which the city council proposes to erect, the following resolution was offered by Dr. A. A. Smith and carried:

Resolved, That the Muskegon-Oceana County Medical Society commends the action of the council of the City of Muskegon in any steps it may take to establish a hospital for the housing, treatment and relief of persons afflicted with tuberculosis.

Meeting adjourned to luncheon.

V. A. Chapman, Secretary.

LENAWEE COUNTY

Lenawee County Medical Society held its February meeting at Adrian. There was a good attendance. The Quiz Master, Dr. Andrews had his hands full in finding questions that could not be answered. To all the doctors that were absent take this notice: Look up your A. M. A. *Journal* for February and come loaded as Dr. Seager is the next Quiz Master. In addition to the Quiz there were a number of Clinical cases. Dr. McKenzie demonstrated the *x*-ray on a case of supposed fracture.

I. L. Spalding, Secretary.

O. M. C. O. R. O.

At a meeting of the O. M. C. O. R. O. Medical Society held at West Branch, Jan. 17, 1912, A. C. MacKinnon of Lewiston was elected president, E. G. Abbott of Sterling vice-president, and R. J. Beeby of West Branch secretary-treasurer. We will hold six meetings this year, alternating between Grayling, Gaylord and West Branch.

R. J. Beeby, Secretary.

ST. JOSEPH

Our County Medical Society met at Three Rivers, Jan. 6, 1912, as per call at 12:30. The Three Rivers doctors conducted those "out of town" to the dining room of the Central Hotel where each one demonstrated that at the table of his good wife he had learned to be a workman of skill. There were several splendid talks given on assigned subjects. But had a visitor dropped in he might have concluded it was simply a friendly professional visit and interchange of thought with report of cases. No good political gossip or presidential speculations (after dinner), just a heart-to-heart interchange of professional thoughts. Seldom has more interest or earnestness been shown in a similar meeting.

T. D. Givan was re-elected president; R. E. Dean, Three Rivers, vice-president; S. R. Robinson, reelected, secretary-treasurer. W. A. Royer was elected state delegate, J. R. Williams was elected alternate.

S. R. Robinson, Secretary.

WAYNE

At the meeting of the Medical Section on Jan. 15, 1912, Dr. Thaddeus Walker read a paper entitled, "Fees for Clinical Laboratory Examination." and Dr. Joseph Sill read a paper entitled, "The Limitations of Clinical Laboratory Methods." Both papers were of exceeding interest to every up-to-date practicing physician. The discussion, which was participated in by Drs. C. G. Jennings, E. M. Houghton, A. P. Ohlmacher, W. F. Metcalf, V. C. Vaughn, Jr., and R. G. Owen, was to the point, and served to bring to light many angles of the present day cost of practicing modern medicine.

The regular chairman and secretary of the Section, Dr. James Cleland, Jr., and Dr. R. L. Clark, presided.

Fifty-three members were present.

Fees for Clinical Laboratory Examinations

Dr. Thaddeus Walker

Dr. Walker's paper was a plea for more uniform laboratory fees throughout the country. He outlined a hypothetical laboratory, showing the cost of investment, with yearly maintenance. The probable number of specimens examined, that is, the capacity of the laboratory was shown, and the time for the work was divided into units. A tabulation of expenses showed the different items involved and their cost per specimen, which would be nearly one dollar, exclusive of salaries of the staff for time devoted to the work. He argued that fees should be based upon the units of time required for the different examinations and that the minimum fee charged for one unit could not be less than $2.00 and permit the staff a fair income.

Dr. Walker also appealed to the physician to know the cost per patient of his practice, and expressed a desire to aid any one who wished to determine this cost, which should not be confused with revenue from practice, but the actual cost of seeing patients of different classes.

The Limitations of Clinical Laboratory Methods
Dr. Joseph Sill

Dr. Joseph Sill in his paper, said that the attitude of the clinician toward the clinical laboratory is faulty, due to extravagant claims on the part of the laboratorian, and disappointment that expectations based on such claims cannot be realized by the physician. The clinical laboratory cannot alone make diagnoses for the physician, but can and should furnish data, obtainable in no other way, for the clinician to use in making his own diagnosis. The clinical laboratory should not be expected to deal with general principles of service, but should apply these general principles to special diagnostic problems. To that end the clinician should furnish the laboratorian with all available data regarding the patient for whom the examination is made. Frequent consultations of the clinician and the laboratorian are valuable to both. The clinician should not be ashamed to admit unfamiliarity with laboratory methods—he should remember that this is an age of specialism, and that the laboratory man forgoes the opportunity to learn many things with which the clinician is familiar, because he is learning a few things the clinician cannot spare time to become familiar with. The solution of the problem is full and free confidence between clinician and laboratorian.

At the general meeting of the society on Jan. 22, 1912, Prof. Grover W. Wende of Buffalo gave a lecture with lantern slide demonstration of "Some Diseases of the Skin." The lecture was highly scientific and the demonstration unusually good. He covered the more common diseases of the skin, though at the close he showed some of the rarer forms. Professor Wende spoke somewhat pathologically at times, showing the modern trend of medicine to this side. Perhaps the field of dermatology is the last to be invaded by the pathologist and already the results gained give promise of greater results to follow. One notices today that the teacher or specialist must combine the clinical as well as the pathological to hold his own.

The following names having been favorably acted upon by the board of directors, were elected to membership:

Mason W. Gray, University of Michigan, 1880, of Pontiac and Mr. Jacob S. Blitz of Detroit to associate membership.

Jean A. Vernier of Detroit reinstated.

M. S. Dubpernell, University of Louisville, 1909, of Detroit, to active membership.

A communication from Major F. M. Hartsock, relative to a symposium on military medicine as a program in the near future, was presented by Dr. Carstens.

President H. O. Walker and the new secretary, Ernest K. Cullen, presided.

One hundred and twelve members were present.

The board of directors has chosen Dr. Ernest K. Cullen to act as secretary pro tempore in the place of Dr. R. C. Jamieson, whose illness has prevented him from performing his duties for some time. Dr. Jamieson expects to spend some time in travel abroad and his continued absence made the choice of some one to fill his place imperative. Up to the present time Miss Jane A. White, the librarian, has very efficiently filled his place.

ROLLAND PARMETER, Correspondent.

At the meeting of the Surgical Section on Jan. 29, 1912, Professor Joseph Jastrow, of the University of Wisconsin, gave a delightful talk upon "The Subconscious and Some Phases of Mental Healing." Dr. Jastrow spoke without notes and kept his audience on the alert every moment. He presented specific instances and drew conclusions with such syllogistic exactness that he kept his audience in no doubt of the point he wished to drive home. The Society is a large debtor to Dr. B. R. Shurly, whose guest Dr. Jastrow was, and through whose efforts the Program Committee were able to present him.

Drs. Alexander W. Blain and J. H. Dempster acted as chairman and secretary pro tempore, respectively.

One hundred and ten members were present.

The Subconscious and Some Phases of Mental Healing

By Joseph Jastrow, Ph.D.
(Abstract)

It has been said that wherever three doctors met, two were atheists. The speaker would alter the saying to, where three physicians meet, two of them will be found to be psychol-

ogists. He felt that in this visit from a member of one profession to another, he, the visitor, reaped the greater benefit. Such visits effected an interchange of points of view. The psychologist was indebted to the physician for the clinical view of the problems of mind.

The medicine man of former times was a psychological medicine man. The "ministering to a mind diseased," did not mean that the body only got out of gear. There was a book written on the subject,—Why the Mind Has a Body. One might write with equal propriety on a subject,—Why the Body Has a Mind,—inasmuch as both subjects are equally absurd. Both body and mind are it, continued the speaker. Subconsciousness was a term which enabled us to point to a center of interest. No function could exist in a biological sense except it were developed out of a long standing relation of organism to environment. A study of normal function was necessary to a proper understanding of the abnormal. Every one had a large number of functions that were understudies, our habits, for instance, were understudies. What the lecturer termed subconscious facilitation was taken as the starting point; subconscious facilities were our habits. We had frequently heard the remark, "Do only one thing at a time," but the only sound advice was, "Do many things at a time." We were as a matter of fact doing a great many things at a time. "When I misspeak myself," said the speaker, "I do so because I am directing less attention to my words and more to my thought." This subconscious understudy enabled one to wind his watch while he was dressing for dinner. It was commonly called absentmindedness, inasmuch as intention and execution were not coapted. Absentmindedness suggested how habits were formed. We were all constantly changing habits and people who were absentminded were so temperamentally and were apt to have frequent lapses.

We measured absentmindedness by the degree of absorption. The speaker went on to illustrate. A student of psychology had been accustomed to write with his inkstand in a certain position on his desk;; for the sake of self-study he placed it in a different location and noted the number of times he unconsciously reached for the ink in its former place. Another illustrative instance was writing the old year in dating letters after the beginning of the New Year.

The more interested a person was in his work, the more frequent were such mistakes until a new habit was formed. We were continually breaking up old habits and forming new. The formation of new habits constituted the beginning of subconscious facilitation, which enabled us to do a large number of little things without much attention.

A large number of functions were performed by a minimum of attention, for example, swallowing; when a patient choked in the act of swallowing a pill, it is because he used his cerebrum rather than his medulla. The condition was one of a faulty distribution of consciousness. We could do wonderful things without the will asserting itself.

We had many muscles which in the evolutionary process have become apparently functionless; such we did not use for action, as our ancestors did. These muscles were, with us, largely muscles of expression. We were unable to command them voluntarily. There was, for instance, a real difference between the stage laugh and a real hearty facial response to some humorous situation, and stage tears and tears inspired by grief. There was too much consciousness about the former. All forms of affectation appeared false, owing to the lack of balance between conscious intent and the subconscious.

The temperamental phrase was strong with the individual man. Shyness, for instance, was described as a widely disseminated form common to all humanity. It was that peculiar form of fear provoked by social surroundings, —a protective reaction against the strain. Shyness is responsible for a great deal of mental misery. In the abnormal development of shyness we had a psychopathic condition. Shyness was described as the pangs of an "ingrowing mind." Frequently in children we had unhampered freedom, to be followed later in life by a period of shyness. The set of involuntary actions were lost and had to be reacquired. Human instincts were more complicated and numerous than animal instincts. With man the relation between the conscious and the subconscious were often in conflict, and it was the conflict phase we were to look to for further light.

If one were asked to define the word "thinking," he would have a difficult task before him. We have no opposite to "think-

ing." It was like the main street of a town; it did not require a name. Wundt, on being questioned about the significance of the term "thinking," replied that no animals and very few men were addicted to thinking. "If there be any opposite for thinking," continued the speaker, "it is 'dreaming.'" Drifting away from thinking was getting into the land of dreams. Those which came to us during sleep were the great reservoirs of a subconsciousness. Day dreams were called reveries. From the beginning, people had a longing for another world, different from the world of thought, to attain which resort was had to such drugs as "Hashish," "opium," and so on. Since dreaming was the natural condition, the question pressing itself for answer was how we ever came to think. We had, in dreaming and thinking, a contrast that offered a point of analysis. What was it that the mind possessed when it dreamed that it had not been awake? Dreaming was defined as already half-waking. Waking, as contrasted with dreaming, was characterized by (1) Incorporation: When one awakened, he incorporated the world without. A sense bombardment began, or in other words, we began to react to our surroundings. (2) Men dreamed always in terms of their past selves. Awakening meant orientation. We realized who we were. (3) In waking we exercise our own initiative. On taking ether, a person lost all three at once, and in regaining consciousness initiative came a little later. The above conditions were designated normal. The abnormal state consisted in the resumption of any one of the three without the others. Such a disturbance in mind was called an illusion, or an hallucination. Dr. Jastrow went on to describe hysterical anesthesia and psychical anesthesia, illustrating the conditions by the patient's inability to recognize, under suggestion, certain letters in a word or phrase, while at the same time recognizing the positions where such letters belonged, or, a man under the impression that he had forgotten his watch taking out his timepiece to see if he had sufficient time to go home after it. In hysterical anesthesia we had certain areas dropped out of consciousness.

Somnambulism was strange inasmuch as it was initiative selectively resumed. Shakespeare was correct in his representation of Lady Macbeth, who, in her sleep, saw only that on which she was bent. She was able to move about in her sleep without burning herself with the candle. Somnambulism represented the resumption of the initiative before the first two characteristics of wakefulness as opposed to dreaming. The somnambulist was able to control his muscles, or, in other words, to exercise the initiative which, under normal conditions, was the culmination of the waking act.

Speaking of the nature of personality, Dr. Jastrow went on to state that personality was an achievement—a normal and natural one, but one we had to fight for. Freud had come to that conclusion from his study of dreams and hysteria. We had to suppress unbidden thoughts. The speaker went on to explain that we were continually expressing thoughts, that one's speech would be a perfect bable if he uttered the thoughts as they arose in his mind. Then, in regard to being susceptible to suggestion, such a thing was impossible while man was in a critical mood. We must first be uncritical before we can respond to suggestion. The hypnotist, the speaker went on to say, took advantage of this condition by diverting the attention of his subject before he began to suggest. In our dreams we were not critical; all that glittered was gold; in our waking moments we would take the putative gold to the metallurgist for an assay. It was the constant fight between the genuine and the imitation that kept up the critical faculty.

Childhood was not critical, and did not demand the true, hence the absurdity of the position of those who would insist on filling the child-mind with the bald truth. It was a fact that we had to assume the critical faculty to preserve our own personality, yet the person who had some vent or outlet for his personality was the safer one. Greek tragedy was a means of vicariously accomplishing this end. While suppression of the numerous thoughts and emotions that flood the mind was necessary to the preservation of one's personality, it was a mistake to suppress too much.

The lecturer concluded by reference to the psycho-therapeutics of the confessional of the Roman Catholic Church. The analysis of the conscious and subconscious states afforded a field for serious study for both psychologist and physician.

Rolland Parmeter, Reporter.

MICHIGAN HEALTH OFFICERS ASSOCIATION

The Michigan Health Officers convention was held at Ann Arbor Jan. 30 and 31, 1912.

Dr. V. C. Vaughan, president of the State Board of Health, presided over all sessions. The opening address was given by Hon. Wm. Walz, Mayor of Ann Arbor. In addition to welcoming, formally, the Health Officers he expressed his appreciation, as a layman of the work which the Public Health Departments are accomplishing.

Dr. Vaughan presented a paper on the "Michigan Method of Water Analysis," covering rather completely the twenty-four years of experience with this method. His paper was discussed by Drs. Holm, Inches, and Hayward.

Dr. Ralph Apted of Grand Rapids presented a very urgent plea for a State Hospital for advanced cases of tuberculosis. He pointed out very definitely the impracticability of taking these cases to the Howell Sanatorium, and showed the importance of having definite provisions made for the care of these cases. His paper was discussed by Drs. Fisher, Kiefer, Vaughan and others.

Professor Gardner Williams gave a very interesting and instructive paper on the subject of "Water Purification." He traced the history of this sanitary principle from its beginning, and discussed the various methods now in vogue with respect to the impracticability and efficiency. Drs. Kiefer, Coté and others discussed the paper.

At the evening session Dr. Novy gave a talk on the subject of "Disease Carriers." He emphasized the importance of giving a more definite consideration to this subject in relation to the prevention of the spreading of diseases.

Following Dr. Novy's lecture, Dr. Warthin gave an illustrated talk on the subject of "Occupational Diseases." He reviewed, somewhat, the work which has been done in other states in the way of investigation of occupational diseases and emphasized the importance of such an investigation in Michigan. The evening papers were discussed generally.

At the Wednesday forenoon session Mr. J. A. Hach, chairman of the Legislative Committee of the United Commercial Travelers Association, read an interesting paper on the subject of Hotel Sanitation. Mr. Hach emphasized the fact that the various boards of health have an opportunity to serve the public by requiring more consistent sanitary principles in hotels and on railroad trains. Mr. Hach advocated the abolishment of the roller towel particularly.

The chief propositions involved in the Medical Milk Commission law were discussed and explained by Dr. Kiefer of Detroit. Following Dr. Kiefer's paper several of the health officers who had, apparently, not fully understood the details of the law expressed their intention to try to effect an organization of a Medical Milk Commission in their jurisdictions.

Dr. Koon read a very interesting paper on the subject of "Garbage Disposal." He outlined the method in vogue in Grand Rapids and was able to emphasize the efficiency of the service, also the relatively small expense to the community. His paper was subjected to much general discussion, lead by Drs. Powers and Zudrawski.

At the Wednesday afternoon session Miss Adele McKinnie read a paper entitled "Eugenics Work in Michigan." This paper was one of the most interesting ones presented and manifested a great deal of tact and ability on the part of the writer. Miss McKinnie is now conducting, under the direction of the Michigan State Board of Health, a six months' study of this subject in Michigan. Her paper was illustrated by charts and was discussed by Drs. Barrett, Huber, Warthin and Prof. Shull.

A paper entitled "The Smallpox Situation," was presented by Dr. Alger. The trend of this paper was to emphasize the importance of vaccination as a preventive measure. During the discussion of this paper, it developed that the majority of the health officers were in favor of a compulsory vaccination law.

"The Control of Typhoid Fever," was presented in a paper by Dr. Slemons. This paper emphasized the importance of physicians reporting all cases promptly to the local health officer.

All papers were subject to general discussion and the extent to which health officers entered into these discussions showed the high degree of interest maintained.

Probably the most important transaction of the convention was the organization of the Michigan Health Officers Association. This association will meet at Ann Arbor some time in May or June, the exact time to be determined by the State Board of Health. The slogan of the association is to be "general cooperation in the interest of public health." In order to provide plans for perfecting the

organization of the health officers the following officers were elected, and were instructed to prepare rules and regulations, etc., to be submitted at the forthcoming convention: Dr. Guy L. Kiefer, president; Dr. R. L. Dixon, secretary; Dr. T. J. Langlois, Dr. T. M. Koon, Dr. A. F. Fisher and Dr. Edward Goodwin, vice-presidents.

R. L. DIXON, Secretary.

THE ASSOCIATION OF RESIDENT PHYSICIANS OF ST. MARY'S HOSPITAL

On Saturday evening, January 20, the Association of Resident Physicians of St. Mary's Hospital met at the Wayne County Medical Building, 33 High Street E. The meeting was well attended and judging from the enthusiasm shown this association bids fair to become prominent in the medical affairs of the community.

Dr. F. B. Tibbals, in an interesting and concise manner, presented the subject of "The Treatment of Trifacial Neuralgia with Deep Alcoholic Injections," and Dr. William M. Donald, in a short talk on "Some Problems in Dietetics," brought out some very instructive features in carbohydrate, fat, and proteid feeding.

The officers for the coming year are: president, Dr. H. Wellington Yates; vice-president, Dr. Charles McLean; secretary, Dr. R. C. Andries; treasurer, Dr. F. E. Pilcher.

Dr. Howard Coll, who has just completed his internship at St. Mary's Hospital, was admitted to membership.

R. C. ANDRIES, Secretary.

DETROIT OTO-LARYNGOLOGICAL SOCIETY

At the meeting of the Detroit Oto-Laryngological Society, Jan. 16, 1912, Dr. Harold Wilson read a paper on "Some Aspects of the Mastoid Operation," and Dr. Emil Amberg read a paper on "Why the Practice of the Specialties Should be Controlled."

Some Aspects of the Mastoid Operation

Dr. Harold Wilson

(Abstract)

As a matter of curious interest the case-record of the first case occurring in his practice was given. The case was one of spontaneously perforating mastoid abscess, with the formation of subperiosteal abscess. The operation consisted in a curettement with the subsequent packing of the wound with cotton—cure followed. This was in 1889, and was noted to emphasize the great change in the technic of the mastoid operation since that time. The subject was considered under several heads.

Diagnosis—It was noted that no absolutely diagnostic signs exist which singly make the operation imperative, and that the necessity for surgical intervention is determined by the particular complex of symptoms existing in the individual patient. Cases were related to show the insufficiency of single symptoms, such as pain, tenderness, swelling and sagging of the posterior canal wall.

From a year's experience in the use of gas-oxygen anesthesia the speaker was highly favorable to its use in all otherwise suitable cases.

Preparation of Field—The use of soap, alcohol and ether was commended. A gauze strip about an inch wide fastened along the posterior border of the field by means of collodion holds the hairs fast and keeps them completely out of the way. A most satisfactory way of delineating and protecting the operative field was shown, involving the use of a bandage and two towels.

Incision—Contrary to the classic advice, the writer urged the more gradual and cautious incision of the skin, especially in children, where a thin, soft cortex or dehiscences would make a deep, rapid incision dangerous.

Opening the Bone—The antrum is not usually sought for and entered as the first step, but rather after the larger part of the bone has been removed. In this way, there is less danger to the sinus and an easier, more open field for operation.

Closure of Wound—The immediate closure of the upper two-thirds or more of the wound in most cases hastens recovery and minimizes deformity. A short perineorrhaphy needle has been found to be most satisfactory for placing the sutures, which include the entire thickness of the flaps.

Why the Practice of the Specialties Should Be Controlled

(Abstract)

Dr. Emil Amberg

At the present time anybody who chooses to call himself a specialist may do so. The only restriction lies in the character of the individual. This fact includes a high tribute to the integrity of the specialist, and from the standpoint of individualism this condition

represents the highest type of development. From the standpoint of a regulated and governed community, it represents anarchy, as defined by Webster.

We are confronted with the question, to what extent the supervision of the state is applied to the practice of the specialists. The answer is as simple as it is dumbfounding. At present no evidence of knowledge and fitness is required. The specialists must receive their training in hospitals, either as assistants or in similar positions. The answer received from a number of specialists by the writer express the opinion that steps should be taken aiming at the regulation of the practice of the specialties.

RED CROSS ANNOUNCEMENT

The American Red Cross desires again to invite attention to the exhibition in connection with the Ninth International Red Cross Conference, which will be held in Washington, D. C., from May 7 to 17, 1912.

The exhibition will be divided into two sections, which will be styled "Marie Feodorovna" and "General." The former is a prize competition, with prizes aggregating 18,000 rubles, or approximately $9,000, divided into nine prizes, one of 6,000 rubles, approximately $3,000; two of 3,000 rubles each, and six of 1,000 rubles each.

The subjects of this competition are as follows:

1. A scheme for the removal of wounded from the battlefield with the minimum number of stretcher bearers.
2. Portable (surgeons') washstands, for use in the field.
3. The best method of packing dressings for use at first aid and dressing stations.
4. Wheeled stretchers.
5. Transport of stretchers on mule back.
6. Easily folding portable stretchers.
7. Transport of the wounded between warships and hospital ships, and the coast.
8. The best method of heating railway cars by a system independent of steam from the locomotive.
9. The best model of portable Roentgen apparatus, permitting utilization of x-rays on the battlefield and at first aid stations.

The maximum prize will be awarded to the best exhibit, irrespective of the subject, and so on.

The general exhibit is again divided into two parts; the first will be an exhibition by the various Red Cross Associations of the world. The second will be devoted to exhibits by individuals or business houses of any articles having to do with the amelioration of the sufferings of sick and wounded in war, which are not covered by the Marie Feodorovna prize competition for the year. While the American Red Cross will be glad to have any articles pertaining to medical and surgical practice in the field, it is especially anxious to secure a full exhibit relating to preventive measures in campaign. Such articles will be classified as follows:

1. Apparatus for furnishing good water in the field.
2. Field apparatus for the disposal of wastes.
3. Shelter such as portable huts, tents and the like, for hospital purposes.
4. Transport apparatus (to prevent the suffering of sick and wounded) exclusive of such apparatus as specified for the Marie Feodorovna prize competition.

As with the Marie Feodorovna prize competition, for this country only articles having the approval of the central committee of the American Red Cross will be accepted.

Diplomas will be awarded for exhibits in this section of the exhibition as approved and recommended by the jury.

Further information may be obtained from the Chairman, Exhibition Committee, American Red Cross, Washington, D. C.

It is perhaps to apparatus having to do with prevention of disease in armies that the energies of Americans have been specially directed since the Spanish-American war. Therefore, the last mentioned section of the exhibition should make an appeal to them.

NEWS

Dr. H. N. Torrey, 505 Shurly Bldg., Detroit, announces that hereafter he will limit his practice to surgery.

Dr. Eryl S. Peterson of Jackson has been appointed a member of the Medical Reserve Corps of the Army with rank of first lieutenant from Jan. 17, 1912.

Dr. W. E. Dockry, formerly of Pentwater, has removed to Urbandale (R.F.D. 4, Battle Creek), and has transferred his membership from the Muskegon-Oceana County Medical Society to the Calhoun County Medical Society.

Dr. Ralph O. Fuerbringer, who has been home for a few weeks on account of a severe attack of diphtheria contracted while on the staff of the clinic of the University of Marburg, has just received a flattering offer of a place on the staff of the surgical clinic of the University of Königsburg. As yet he has not decided whether he will return to Germany.—*Saginaw Courier-Herald.*

Operation of the pure food decision prohibiting the use of saccharin in food stuffs which was to have become effective February 1, after two postponements, again has been extended to March 1. The delay is said to be due to the fact that the Board of Appeals (Three Secretaries Board) has not had time to consider the case fully. Manufacturers asked for a modification of the regulation so that saccharin might be employed in amounts not exceeding "one hundredth grain in any one food."

According to Bulletin 109 on Mortality Statistics for 1910, just issued, tuberculosis is the greatest cause of death in people from 10 to 50 years of age. Organic disease of the heart constituted the most important cause of death at each age period between 50 and 90 years. Cancer caused 9 per cent. of deaths from 40 to 49 years, 12 per cent. from 50 to 59 years and 11 per cent. from 60 to 69 years. Cerebral hemorrhage (apoplexy) caused 7.5 per cent. of all deaths 50 to 59 years, 10.7 per cent. 60 to 69 years, 12.1 per cent. from 70 to 79 years, and 10.8 per cent. from 80 to 89 years. Pneumonia caused 7.1 per cent. of all deaths from 30 to 39 years, 7.8 per cent. from 40 to 49 years, 7.6 per cent. from 50 to 59 years, and 7.1 from 60 to 69 years.

The American Hospital Association will hold its next annual meeting in Detroit, September 24, 25, 26 and 27. The executive committee is composed of Dr. W. L. Babcock, Mr. T. E. Moulder, Dr. E. B. Smith, Miss Sydenham Mellville and Mr. Del Sutton. Applications for membership may be had by addressing the secretary, Dr. J. N. A. Brown, Toronto, Canada.

Questions regarding hospital finance, and prevention of waste, medical organization, management of infectious diseases, the out-patient department, social service, municipal needs and policies relating to the care of the sick, hospital dietaries, the best method of purchasing, the training of superintendents and heads of departments, hospital accidents, and a great variety of similar practical subjects, important to all hospitals will be discussed, so that the experience of one hospital may be made known and used for the benefit of all.

The University of Michigan will this year celebrate the seventy-fifth anniversary of its founding. A committee has been made up of representatives from the Board of Regents, from the University Senate, from the Alumni Association, and from the Michigan Union to perfect plans for the celebration. While the details of the plans have not yet been worked out, it has been determined by the committee, however, that the celebration shall be held during Commencement week, June 23 to 27 inclusive. It is probable that three principal addresses will be given during the celebration, one Sunday, June 23, to take the place of the ordinary baccalaureate address, one Wednesday morning, June 26, and another upon the occasion of Commencement, June 27. Distinguished speakers from different parts of the country will be secured for these addresses.

BOOK NOTICES

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., and Leighton F. Appleman, M.D. Dec. 1, 1911. Lea & Febiger, Philadelphia and New York. $6 per annum.

This volume contains the advances in various fields of medicine and surgery as reviewed by R. S. Lavenson (diseases of the kidneys); C. W. Bonney (Genito-Urinary Diseases); J. C. Bloodgood (Surgery of the Extremities, etc.), and H. R. M. Ladis (Therapeutic Referendum).

The Chapter by Bloodgood is especially good, his treatment of fractures being not only timely in view of the number of fractures causing malpractice suits, but being particularly well illustrated.

The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

Vol. XI BATTLE CREEK, MICHIGAN, APRIL, 1912 No. 4

ORIGINAL ARTICLES

TREATMENT OF FRACTURES*

C. H. SAMPLE, M.D.
Saginaw, Mich.

The largest and in many respects most important surgical work that has to be undertaken by the general practitioner is treatment of fractures. Fractures of the long bones are most frequent. I shall present for your consideration a few of what seem to be the more important points in the treatment of such fractures. The history of the injury and careful examination will usually make the diagnosis of the fracture comparatively easy. The discovery of the *x*-ray and its application take the place of a careful clinical examination. Diagnosis and treatment is usually undertaken at the same time. If possible, the patient should be given an anesthetic. When completely anesthetized the patient will experience no pain. Because he is insensible is no excuse, however, for rough handling. Manipulation of a broken bone should be done with extreme care. Much damage can and is often done by unnecessary and rough manipulation. If the fragments can be placed in proper position, treatment consists of retaining them in that position until bony union shall have taken place.

Before dressings are applied the limb should be surgically clean. The same precaution should be taken as would be if the limb were to be amputated. There is frequently excoriation of the skin. Blood-vessels are frequently damaged so as to cause blistering. These conditions afford convenient ports of entry for infection. Aseptic dressings should be applied and some form of retention apparatus to retain the fragments in position. Various materials are in common use, all good if properly applied. Splints of wood, wire, plaster of Paris, starch reinforced with wood, or metal strips.

So-called immovable dressings should never be applied to recent fractures. Plaster of Paris is the material most used for this purpose. As it is commonly applied I believe it has become responsible for more bad results in the treatment of fractures than any other dressing. If carefully applied and held in position until it has become sufficiently firm to hold the

* Read at the Forty-Sixth Annual Meeting of the Michigan State Medical Society, Detroit, Sept. 27-28, 1911.

fragments in proper position, and before quite dry is cut on both sides of the limb, so it can be easily removed, it makes a most useful and convenient splint. Whatever kind of retention splints are used, they should be easily removed so as to enable one to inspect the fracture daily during the first week.

At the end of the first week gentle massage of the joints above and below the seat of fracture should be practiced. Massage of the whole limb, except directly over the fragments, will hasten repair by improving the circulation. Some motion may occur between the fragments. This will have a tendency to hasten rather than retard the process of repair.

Retention splints are, as a rule, kept on too long. They should be removed as soon as the fragments are united firmly enough to keep the bone in perfect alignment. After removal of the retention dressings, massage should be continued until as nearly perfect functional results as possible are attained.

Occasionally we meet with a simple fracture that can be easily reduced, but difficulty is experienced in retaining the fragments in apposition. There is a lack of bony crepitation caused by some interposing material such as muscle, fascia or a spicula of bone. Proper union can never occur under these conditions. Violent rubbing of the ends of the fragments together is likely to increase the traumatism and usually does more harm than good. A free incision should be made over the fracture and the interposing materials removed. If the fragments can then be brought into apposition and held by external splints, the wound should be closed and the usual dressings and retention apparatus applied. Union will be as prompt as in closed fractures.

Slight angulation, especially in children, does but little to retard union and rarely impairs function. Without clear indication, such as the example mentioned, I think it unwise to operate on simple transverse fractures of the long bones, especially the humerus and femur. Injury to a nerve like the musculospiral which may occur immediately or during the process of repair, is a clear indication for operation. Fractures that can be reduced and kept reduced are best treated by the simple method.

If the fragments cannot be held in apposition by external splints and extension, it seems clear that they should be held by some form of internal splint. Wire, nails, screws and plates of aluminum, silver or steel are the materials commonly used. Wire, formerly much used, had better be discarded, except in fractures of the patella of olecranon. It is difficult to apply and very liable to break or to become displaced and gives but little support to the fragments. It is also difficult to remove.

Steel plates, known as Lane's plates, are perhaps the most satisfactory when they can be used. A few special instruments are necessary. A suitable clamp or forcep to hold the fragments and plate in place while holes are drilled and screws placed. The incision should be large enough to give free access to the fragments. Bruising of the soft tissues should be carefully avoided. This can be done only through a large incision. The periosteum should be disturbed as little as possible. One plate is usually all that is necessary. It should be long enough and strong enough to hold the fragments firmly together. There should be at least three or four holes. The screws should be long enough and large enough to securely hold the plate. As little foreign material as possible in the form of plates and screws should be left in the wound. They should also be as far from the skin as possible.

All the essentials of asepsis should be strictly observed. The wound should not be closed. The usual dressings and retention apparatus for treating a compound fracture should be applied.

Foreign bodies such as plates and screws always act as irritants. There will always be some necrosis. A sinus will usually form which will be slow in closing. Union of the fragments will be retarded. In a few instances the plates will remain in place and give no trouble. In the majority of cases they will have to be removed. This is a comparatively simple operation and will rarely have to be resorted to until union of the fragments has occurred.

Fractures of both bones of the forearm are difficult to reduce. There is usually great difficulty in keeping the fragments in apposition with external splints alone. In the majority of cases less deformity and better functional results will be obtained by internal splinting. In fractures of both bones of the leg the same conditions are met.

Fractures of the lower end of the radius are often difficult to reduce, but when properly reduced, displacement rarely occurs. Many special forms of splints have been devised for this fracture, and all have their advocates. If reduction can be accomplished, a simple splint that will immobilize the forearm and hand is all that is necessary. In this form of fracture there is frequently impaction of the fragments. In all fractures, when impaction is found it should, if possible, be broken. If this is done, union is more prompt — there is less deformity and better functional results. Simple badly comminuted fractures, when there is no serious disturbance of the circulation, will, as a rule, do best when treated by the bloodless method (extension and immobilization of the limb). When a simple fracture is complicated with a dislocation the fracture should first be reduced and splinted before reduction of the dislocation is attempted.

In the treatment of compound fractures, functional and cosmetic results are secondary considerations. The life of the patient may be lost in trying to save a useless limb. As a rule, too much is attempted. The wounds are usually septic. Scrubbing with soap and water or with antiseptic solutions is likely to convey more septic material into the wound than it is likely to remove. Careful hemostasis — mechanical cleansing of the wound — fixation of the fragment with some form of internal splints, if practicable, and free drainage with adequate support by external splints that will permit free access to the wound, are the principal points to be observed in the treatment of such fractures. No well-defined rules for treatment of such fractures can be given. Much will depend on the severity of the injury, the vitality of the patient and the experience and sound judgment of the surgeon.

Since the advent of the skiagram, the surgeon has at his disposal means for determining accurately the conditions that exist during treatment; also the results after recovery. To be of value, two skiagrams should be taken by an expert in two positions at right angles to each other. While their value cannot be overestimated, they are not an unmixed blessing. They are now admitted in evidence in damage suits. Slight angulation or deformity of some sort may appear that in no way impairs function. Disability can be feigned and damages unjustly awarded. Judges, lawyers and jurors having little or no knowledge of anatomy are incompetent to interpret a skiagram. If it is to be admitted as evidence, the findings should be explained by an expert.

DISCUSSION

DR. W. K. WEST, Painesdale: I consider the subject of fractures a very practical one for a medical meeting composed largely of general practitioners, as he it is who treats most of them. It is also an important subject for discussion because it has been for some time the most neglected part of surgery, but in the past few years there has been a great deal in the journals on it, and there has been advancement made in their management. As potent influences as any in this change have been the use of the *x*-ray and an improved aseptic technic. I believe greater emphasis should be placed on the use of the *x*-ray in fractures than was done in the paper; in fact I think it should be used largely as a routine, and the treatment is hardly safe without it; at least in many cases. The surgeon using the *x*-ray as a routine will more fully appreciate its value and necessity than he who uses it only in the occasional bad case. That has been our experience, and in the past few years we have had an *x*-ray plate made of nearly every fracture we have treated. It has made clear the diagnosis in a great many cases where it could not be told in any other way; the amount of displacement of the bones, the size and position of fragments, overriding, and all has been shown clear and distinct. It is often impossible to tell through the flesh and muscles of a thick thigh or leg anything more than that there is a fracture. I will pass around a picture of a broken tibia emphasizing that point. The *x*-ray shows that the bone is completely shattered and splintered from about the middle up to and into the knee-joint.

As Dr. Sample has pointed out the *x*-ray is of great value in showing how perfect the reduction of the fracture has been when used after the splints have been put on. I had a case last winter in which there was apparently little displacement and little swelling, and I felt satisfied after I had reduced it and put on splints until the *x*-ray plate showed that the reduction was not perfect and that there was overriding. A second attempt giving no better results, I operated using a silver plate, and during the operation I found it difficult to bring the bones into proper position on account of a loose fragment. The results were perfect from an anatomical standpoint as well as functional, and such results could hardly have been secured without operating.

The operative treatment of fractures, especially the use of a metal plate as introduced by Lane is a great advance over external splinting. Converting a simple fracture into an open one is a serious matter, and should not be attempted by those not doing considerable operating. The technic is very important and the most thorough and perfect asepsis should be carried out, both in the preparation of the skin and throughout the operation. The operator and his assistants should wear rubber gloves, and there should be as little handling of the tissues as possible. I disagree with the essayist when he says the wound should be left open after using the Lane plate, but think it should be closed, and drainage will not be necessary when a rigid aseptic technic has been followed. I do not believe that the plate should often cause trouble nor that it should be necessary to remove it. My experience is still too limited to speak much from it, as I have only had occasion to use a plate six times. The only time I had trouble from it was in a case of compound fracture, in which it had to be removed after a few weeks. The others, simple fractures, all healed by first intention. In one of these cases the first dressing was done on the fifteenth day, and in another on the twelfth day.

DR. A. I. LAWBAUGH, Calumet: I have had considerable experience in the diagnosis of fractures by means of the *x*-ray, and I consider it highly useful, with certain limitations, and in determining its value consideration must be given to three things:

1. An expert radiographer. That I consider essential.

2. The proper interpretation of the radiogram.

3. Bearing in mind that the radiogram does not always reveal all the points. In spite of all precautions, it does not show everything. I have experienced its failure several times, when operation revealed points which the radiogram did not show. We should be extremely careful in the interpretation of the *x*-ray.

I do not believe that this open method of treating fractures should be generalized, for, in my opinion, it is one of the most dangerous of operations in the hands of men not thoroughly competent in everything appertaining to perfect aseptic technic. It has a very sure place in selected cases, such as fractures in the

humerus, at either end, in high fractures of the femur, in low tibial fractures, and some joint fractures. It should not be employed in cases in which experience shows that a good, useful, functional result can be obtained by less dangerous procedures. I would again emphasize that it should be employed only in selected cases, and by men experienced in surgical work, with every regard for the ordinary and extraordinary precautions as to asepsis, and proper surroundings, and proper assistance. Several deaths have been reported by eminent men, and we should always bear in mind sepsis may occur in spite of all our precautions.

As to the metal splints, I have used them, but my preference is for the bone nails, as most of our cases in which that is to be used are oblique fractures; and if we use two bone nails we hold that fracture in perfect apposition.

Dr. C. H. Mayo, Rochester, Minnesota: Whether to treat fractures by the open method or the closed is a subject interesting the medical profession at present, just as appendicitis occupied it a few years ago. In the old days we were in the habit of taking a fractured bone and endeavoring in every possible way to weld it into a closed fracture. Now the method in vogue is that developed by Lane with the idea of allowing the fracture to remain open, and by the use of some kind of mechanical apparatus to hold them. In his case, of course, he uses the type of plate which he developed, and one of the most interesting things he has impressed upon us is the fact that he can use a type of steel plate or screw which of itself does not have bursting qualities, because the thread is cut clear to the head, with a hard-wood screw. We used to think it was necessary to use some type of silver screw. Lane has certainly done a great deal to develop improvements in the fracture treatment by the open method.

It has been brought out in the discussion here that we could not use this method. It would be hard to take exception to some of Dr. Sample's statements that in simple fracture there is no reason for using the plate. That is true. In the case of separation after we have done our best to adjust the fracture, and we find it is not adjusted as we thought, taking the *x*-ray plate is not entirely for the benefit of the patient, but is done somewhat for the benefit of the physician. Seventy-five per cent. of all the contested cases brought against physicians are due to fractures, and it is up to the physician to get the picture taken, and know exactly the condition. The patient should be taken into the confidence of the physician and know something of the possible conditions they are to confront in the future.

Fractures of the weight-bearing bones are much more serious than fractures of the upper bones, which accommodate themselves to displacement, especially in young people; Nature will overcome the displacement, and straighten the bones, but after thirty years of age Nature will not do that. It means years of practical disability, and between the ages of thirty and fifty, when the individual must be assisted by friends and relatives, so that it means a good deal, whether they are to be disabled for a matter of a few years, or disabled permanently.

Dr. Theodore A. McGraw, Detroit: We have a great many fractures for treatment in St. Mary's Hospital. Hardly a day passes but some one is brought in either with a compound fracture or a simple fracture. There is not one of those cases which is not *x*-rayed. The *x*-ray is taken as soon as they come in, and at different times while they are under treatment. The compound fractures almost always get well. We do not put on plates in uncomplicated simple fractures. I agree with the last gentleman that the time to put on a plate to bind the bones together is not when the leg is violently inflamed or if you have to operate in the inflamed area. It is either adjusted when the case is brought in, when there is no great inflammation or after the inflammation has subsided. The main thing, as has been said by the other speakers is to keep the case aseptic. I have very little confidence myself in silver wire. The best you can do in a broken bone when there is much displacement is to put on plates like the Lane plates, which will bind them together much more firmly than silver wire. If you take these fractures on which silver wires have been used and examine them afterwards with the *x*-ray you will find almost always that wires have been broken. Sometimes the bones retain their juxtaposition after the wire has ceased to be holding, and sometimes the wire has to be replaced during the treatment by something that is much more certain in its action.

DISTURBANCE OF FUNCTION OF THE EAR, NOSE AND THROAT IN NERVOUS DISEASES*

CARL D. CAMP, M.D.
Ann Arbor, Mich.

A knowledge of the disturbances in function of the ear, nose and throat which are caused by disease of the nervous system is very important because many such diseases first make themselves manifest by these symptoms. Frequently such cases present themselves to the otolaryngologist on account of these symptoms and he must be prepared to recognize their origin and character even if he doesn't care to treat them.

Diseases and injuries of the nerves supplying the ear, nose and throat are not uncommon and account for some cases of loss of function in them. A neuritis of these nerves may be due to the factors causing a neuritis elsewhere in the body, namely, traumatisms; sometimes pressure by tumor growths; infections; and the action of toxic substances, which may arise either from within or without the body. For illustration: Traumatism to the eighth nerve arises from tumors growing in the cerebellopontile angle and unilateral deafness may be the earliest symptom of this condition, or the trauma to the nerve may be the result of a fracture of the base of the skull. The autogenous poisons in diabetes affect the same nerve not infrequently and toxic substances from without the body, such as quinin, may also affect the same nerve. Infectious inflammations of the cranial nerves are usually secondary to inflammations in their vicinity, such as meningitis, infectious sinus thrombosis, etc. Tumors in the frontal lobes of the cerebrum cause anosmia through pressure on the olfactory bulb; internal hydrocephalus may have the same effect. A neuritis of the facial nerve, if the lesion is between the geniculate ganglion and the branching off of the chorda tympana, as it is when due to otitis media or ear operations, causes a loss of the sense of taste on the anterior two-thirds of the tongue. Deafness of nerve origin may be associated with facial palsy and otitic herpes zoster in the so-called Hunt's syndrome which is due to inflammation of the geniculate ganglion. Paralysis of the nerves supplying the palate causes no difficulty in swallowing liquids but frequently allows their regurgitation through the nose. When these nerves are affected peripherally, it is usually of toxic origin, the best example being the postdiphtheritic multiple neuritis. The peripheral nerves to the larynx may also be affected by toxins but much more frequently in this case is the lesion due to some form of trauma, either the stretching of the recurrent laryngeal nerve around an aortic aneurysm; or the pressure on the nerve of a tumor of the neck, or enlarged glands; or even injuries to the nerves by cuts or stab wounds. The diagnosis in many of these conditions is made obvious by the etiology; but in some of them, particularly those due to intracranial growth, the diagnosis can only be made by considering the other symptoms of the condition.

* Address before the Detroit Otolaryngological Society, Oct. 18, 1911.

An interesting case diagnosed as a multiple neuritis of these nerves, is reported by O. Körner, in a man 50 years of age who had formerly been well and who became paralysed in the lip, tongue and larynx in the course of seven weeks. The laryngeal muscles were involved bilaterally as were the thyro-arytænoidei (interni) and the interarytænoideus (transversus). Recovery was gradual and complete in one year. In this case none of the usual causes of a neuritis — diabetes, alcohol, trauma, etc. — were present, and the case was also interesting because the symptoms were bilateral and symmetrical. The author holds that it was a neuritis rather than a bulbar affection because the patient recovered, but in cases with paralysis of such distribution the lesion is usually in the medulla and is a polio-encephalitis inferior. A somewhat similar case of involvement of the lower cranial nerves without involvement of the central nervous system is reported by Purves Stewart. In that case the etiology was a caries of the temporal bone.

Diseases of the spinal cord sometimes cause symptoms in the ear, nose and throat. Among the most common of these diseases is locomotor ataxia. An infrequent but sometimes a very early symptom of this disease is a gradual increasing deafness, due, in all probability to the same kind of nerve atrophy that occurs in the optic nerve. As in the case of optic atrophy in tabes, the auditory nerve atrophy may be attended with very few other signs of the disease. Disturbance in taste and smell in tabes dorsalis have been especially studied by Klippel, Julian and Oppenheim. The last named speaks of seeing a case in which anosmia and hypogeusia were the first signs of tabes. The so-called laryngeal crises, consisting of severe inspiratory stridor, dyspnea and cyanosis, are not frequent in tabes. Usually the attacks come on without apparent cause and the laryngoscope shows nothing. They may be combined with nasal crises or the nasal crises occur separately. Paralysis of laryngeal muscles is rare in tabes, the most frequent being a partial paralysis of the crico-arytænoideus postici not accompanied by marked subjective symptoms. Graeffner[1] has made a statistical study of the laryngeal symptoms in 221 cases of tabes showing the relative frequency of the varying conditions that may be met with in the larynx in this disease. I have seen two cases of taboparesis in which there were spasms of the muscles of the jaw and throat resembling severe and repeated yawns. Undoubtedly they are crises but they are apparently not described in the literature of the disease.

In lateral sclerosis, causing spastic spinal paralysis, the muscles of deglutition and articulation may become spastic and give rise to a spastic bulbar palsy. Laryngo-spastic attacks, in this affection, have been described by Strümpell. In some cases of Little's disease (congenital spastic paraplegia), we find a difficulty and uncertainty in the speech which is due to a spasticity of the muscles of the throat and mouth and there is a category of these cases in which the spasticity exists only in the muscles of articulation. The peculiar irregular and explosive speech of the patient with Friedreich's ataxia is due to the mental condition rather than any affection of the throat. The functions of the ear, nose and throat are not usually affected in anterior poliomyelitis. Huet has described a case of aphonia; but cases severe enough to affect the bulbar nuclei are usually fatal.

The chronic anterior poliomyelitis and the progressive muscular atrophies are not accompanied by any signs in the ear or throat; but in amyotrophic lateral scle-

1. München. med. Wchnschr., 1907, No. 36.

rosis, atrophy of the tongue and interference with speech and deglutition may be early symptoms. Congenital myotonia, or Thompson's disease, has an interest in this connection as it might account for some cases of stuttering; but usually in this disease the muscles of articulation are not affected and the speech is normal.

The scanning speech in multiple sclerosis is well known, but the mechanism of its production is not understood. Rethi, in his monograph on "The Laryngeal Phenomena of Multiple Sclerosis," says that the intention tremor symptomatic of the disease may also affect the vocal cords, giving rise to a peculiar tremulo in the voice. Nerve deafness is an occasional symptom and, rarely, there are distinct symptoms of bulbar paralysis in this affection.

Progressive bulbar palsy is an affection which the laryngologist is more than likely to see before the neurologist, since a difficulty in swallowing and a slurring articulation are usually the first symptoms. The difficulty in articulation usually affects the labials and gutterals first. There is an atrophic paralysis of the tongue and weakness in the lip: later in the disease there may be an adductor paralysis of the larynx. The same bulbar phenomena present themselves in later stages of amyotrophic lateral sclerosis, but in the latter disease spastic conditions of the lower jaw and sometimes of the throat (Strümpell, Mills and Spiller), may complicate the picture. Fortunately, these diseases are rare. The so-called pseudobulbar palsy might be mentioned; it is due to bilateral brain lesions and, while the difficulty of speech and deglutition may be quite the same, it is easily differentiated from the progressive type by the history of apoplectic shocks and the absence of atrophy. It is non-progressive.

In line with these conditions, one should refer to myasthenia gravis, that peculiar affection thought to be due to persistent thymus gland, in which the symptoms depend on the intense muscular asthenia, amounting to paralysis, which ensues on any exertion, or even following electrical excitation. The affection may involve any set of muscles that are used and very frequently we find the voice disappearing after a few minutes' use, dysphagia after eating a short time, etc. The weakness rapidly disappears on resting, and a local examination shows nothing.

In paralysis agitans the tremor may affect the vocal cords. Graeffner[2] has found that the tremor of the vocal cords is in the tempo of the general tremor in 26 per cent. of cases; it varies from that tempo in 34 per cent. of cases, and is totally absent in 40 per cent. It may vary in character and in the part affected at different times in the same case.

Simple disturbances of cerebral circulation may produce auditory symptoms, such as tinnitus or even hallucinations and, furthermore, areas of softening due to thrombosis may occur in the temporal regions and produce an auditory aphasia. Complete deafness from intracerebral lesions is very rare and only occurs when both temporal lobes are destroyed. Likewise, paralysis of articulation and deglutition from cerebral lesions only occurs when the lesions are bilateral. Graeffner[3] has statistically studied the palatal and laryngeal symptoms in hemiplegics and finds that palatal paralysis is more frequent than laryngeal except in cases with multiple lesions, and that the loss of reflex irritation of the palate or larynx is a symptom of little value. Brain tumors may give rise to the same auditory and throat symptoms as areas of softening do.

2. Berl. klin. Wchnschr., Sept. 18, 1911, p. 1709.
3. Berl. klin. Wchnschr., 1910, No. 2.

if similarly located in the brain. The general symptoms of a tumor of the brain, such as headache, vomiting and choked disk, permit the diagnosis to be made. Tumors may cause deafness by direct pressure on the auditory nerve, as has been said, or they may cause bulbar paralyses by pressure on the medulla. Purves Stewart[4] has published some interesting cases of brain tumor and other intracranial conditions attended with nasal, aural and laryngeal symptoms. A case of tumor of the infundibulum was attended with attacks of voracious appetite. The latter symptom was due to the fact that the tumor had extended up toward the temporal lobe. Another case of extracerebellar tumor shows that even tumors growing from the sheath of the auditory nerve may not be attended with any marked disturbance of hearing; and in another case, of intracerebellar tumor, there was no disturbance of hearing. Thrombosis of the medullary arteries may cause palatal paralysis, as shown by another case.

In epilepsy, symptoms referable to the nose and throat are very infrequent, if we except the uncinate group of fits; i. e., those ushered in with sensations of taste or smell and due to lesions in the uncinate gyri. When marked ear or throat symptoms occur in this disease, there is usually some local condition present to explain them and it may be the case that the local condition causes the fits, as in the case of some reflex epilepsies.

The otolaryngologist has little interest in the angioneuroses and trophoneuroses, but one should refer to the edema of the glottis which sometimes occurs in Quincke's edema, as cases have been described by Osler, Griffith and others. In chorea and similar affections, in some cases, swallowing and talking may be interfered with by the cramp.

4. Brit. Med. Jour., Oct. 22, 1910.

In neurasthenia, symptoms referred to the nose, throat and ear are not infrequent. In about 200 cases of neurasthenia, in which I tabulated the symptoms present for another paper, I found symptoms of this sort complained of in 30 per cent. and in some cases these were the chief symptoms complained of by the patient. Though multiform in character, the symptoms in such cases are always explicable as symptoms of fatigue and hyperirritability of the function involved. In my opinion this is necessarily so, for, to me, neurasthenia is a definite clinical entity and symptoms that could not be so explained would not be classified as neurasthenia. For instance, with the ears, we sometimes have an apparent impairment of hearing; but usually a careful examination shows it to be due to difficulty in holding the attention; in the same way the apparent hyperacuity of hearing in these cases, which is sometimes so marked as to be painful, is really more due to the mental irritability. The symptoms in the nose, throat and ear are, of course, not benefited by local treatment to these parts.

The disturbances of function in hysteria are interesting and very important. Their variations are almost innumerable and almost any other trouble may be simulated by hysteria. I shall not try, therefore, to describe them but I would like to call attention to a few points concerning them. The first is the prevalence of the condition in children. Several men have called attention to this but it seems not generally recognized. I have seen a number of cases of hysteria in children. One case of deafness in a child only 6 years old, for instance. These cases are often difficult of diagnosis because, in children, hysteria is liable to be monosymptomatic and the other signs or symptoms entirely absent. Somewhat similar to the impression that hysteria does not occur in infants is the

idea that hystericals are "nervous" in the popular sense, i. e., irritable, emotional, etc. In some cases this is so; but in the majority of cases the hysterical is rather the reverse and quite often unemotional. I was once told by a physician that a patient with a hysterical aphonia could not be a hysterical because she made no fuss at all over the laryngoscopic examination, even the first time it was made. He forgot that pharyngeal anesthesia is a good sign of hysteria. These cases give very satisfactory results when properly treated but, in my opinion, it is most unwise to treat the parts affected locally, since, by so doing, the patient's attention is riveted to that part. General psychotherapy and the education of the patient to see the part played by the mind in his affection are much more likely to be of permanent benefit.

924 Baldwin Avenue.

MEDICAL IDEALS

W. W. Anderson, Newport, Ky. (*Journal A. M. A.*, January 27), asks who better than the physician can have high ideals, as every advance in his science is pushed by the profession often to its loss and against bitter opposition. No other calling or profession has such a record of unselfish devotion to humanity. He points out that the physician foregoes the chances of becoming rich, and there is hardly one that could not double his income if he adopted the ethical code and practices accepted in the general business world. The every-day practice of medicine, he says, is eminently fitted to make the most of any man who will give himself devotedly to the work for its own sake. The great men in medicine were not born to greatness, but they had great problems to solve and solved them by their energy and devotion. There is still a great field for advancement in medicine and improvement in our practice, and the world has a right to expect it from us. Only in the department of major surgery is the medical art following closely in the footsteps of science, because its results are constantly reviewed and criticized by the profession, because it commands a fee that supplies the means for good work, and because of its limited field which can be cultivated. The same is true also to a certain extent in the other specialties, and while a broad general knowledge is always necessary, the times demand even more insistently that, while the physician broadens his general vision, he should narrow his field of work. Every physician should do some specializing. The whole field is too broad for any one man to cover. He ought to serve his patients in every case to the best of his ability, but he can do best if he will also devote a portion of his study to special subjects. Consultations ought to be more frequent, and they would be if each physician would take up some line in which to be the neighborhood expert. The greatest opportunities are waiting for the general practitioner who first sees 95 per cent. of all the patients. Only let him not try to grasp everything or lessen his efficiency by trying to do too much. Where his knowledge and skill are not up to the needed standard, let him call in consultation his fellow-practitioner best qualified in that line.

VACCINE THERAPY*

W. T. DODGE, M.D.
Big Rapids, Mich.

At the 1909 meeting of the State Society I read a paper on "Urinary Infections" and therein reported sixty-one cases treated with injections of autogenous vaccines. At that time twenty-three of these cases were cured and thirty-seven were under treatment. Since then thirty-two have been cured, one suffering from an enlarged prostate with severe infection of the urinary passages became so much better that I performed prostatectomy on him. He developed acute nephritis and died one week following the operation. It might have been better to have given him the vaccines longer before operation. One case had a greatly enlarged right kidney and declined operation. She discontinued treatment and was lost sight of. The remaining four cases were improving when last seen but did not return for final culture so I cannot say whether the infection entirely disappeared or not.

This gives a final result of fifty-five positive cures in sixty cases of urinary infection, many of them old chronic cases that had resisted other forms of treatment for many years.

Since Sept. 1, 1909, we have treated eighty-eight cases of infection with injections of sterilized bacteria, eighty-six with autogenous, two with stock vaccines. The infecting organism in these cases was as follows:

Bacilli coli communis	59
Staphylococci (boils and acne)	11
Streptococci	6
Gonococci	5
Mixed infection; colon and staphylococci	7

One case of gonococcus infection was of the joints and failed to improve under injections of 50,000,000 germs repeated several times. Rapid improvement and complete subsidence of acute symptoms took place on injections of 250 millions repeated once. This illustrates the inadequate dose in most stock vaccines as found on the market. One case of boils was treated with stock staphylococcic vaccine and promptly cured. Two cases presenting colon bacilli in the urine died. One had organic heart disease, the other gangrene of the leg. The presence of colon bacilli in the urine of these cases was probably due to the lowered resistance of the system. The vaccines had no appreciable effect. All of the other cases are cured.

This later experience confirms my faith in this method of treatment in selected cases, and I believe no practitioner can afford to ignore it.

Bacteria may, in some cases, be found in the urine without the presence of pus and, when the primary disease is not an infective one, or is strictly self-limited, the administration of vaccines is not at once indicated. The germ in such cases is generally the colon bacillus as this organism, being always present in the intestines, has a special tendency to invade the blood when the system is lowered in resistance from any cause. We have found this germ in the urine in a great many cases, to which we did not administer vaccines, because there were present no symptoms that could be attributed to the germ. In such cases we made repeated cultures and only administered vaccines if the germ persisted for some time. In other cases

* Read before the Bay County Medical Society, Bay City, Oct. 24, 1911.

we have found the colon bacillus present in the urine, without pus or casts, for some time and then the resisting power of the kidney has been overcome and more or less nephritis has been set up.

The theory of Wright as originally promulgated led us to hope for assistance only in chronic cases from this treatment. Experience is accumulating to demonstrate that it is even more valuable in acute cases and I will report several cases to confirm this statement in addition to the two cases I reported in my 1909 paper. This leads to a consideration of the bacteriologic factors entering into vaccine therapy, and my colleague, Dr. A. A. Spoor, who has done all the laboratory work in the series of cases that I have reported, has kindly formulated his views for me on this subject.

"The control of injection is most important in vaccine treatment. At present there are two methods of control. First, Wright and his pupils regulate the dosage and interspacing of injections almost entirely by the opsonic index. The time for the second and subsequent injection is not always controlled, however, even by Wright and his pupils, by this method. Second, others have found the opsonic index alone too unreliable to serve as a guide in the administration of bacterial vaccines and depend on clinical symptoms and manifestations instead. Wright, in fact, used the method of vaccination before he discovered opsonins. In accepting opsonins as important factors in immunity, other immunizing substances must not be lost sight of, such as the antitoxins which neutralize the poisons, the agglutinins, a property of the serum which causes the bacteria to lose their motion and to clump together in masses, and the bacteriolysins, a property of the serum which brings the bacteria into solution; for example: In a patient suffering with cerebrospinal meningitis, from the spinal fluid of which *Micrococcus meningitidis* was cultivated, Schorer tried to govern the dosage and interspacing of injections of meningococcus vaccine by the opsonic index. After three to four minutes of incubation of the mixture of leukocytes, meningococcus suspension and patient's serum, all the organisms were found to be dissolved, when it takes fifteen minutes' incubation before reading the opsonic index. It is evident that lysins in this case were probably of more importance in producing immunity than were the opsonins. The authorities on the subject are pretty well agreed that it takes from five to nine days for the blood to develop the known antibodies, and for this reason the interspacing of dosages has been set at from five to nine days. It has been our experience that some kind of infections are better controlled by giving the injections more frequently, when they are not apparently affected by giving the injections every five to seven days. It is a well-known fact that bacteria, as a rule, do not thrive and grow well on artificial mediums without being frequently transplanted, and die out long before the nourishment of the mediums is exhausted. It is also well-known that the excretions of all organisms, human and otherwise, are deleterious to the existence of the organism, so it has occurred to me that there may be substances formed during the growth of the bacteria on culture-mediums, or liberated during the heating or killing of the bacteria in preparation for vaccines which inhibit the growth of the infection in the human body, or neutralize the poisons being formed by the infecting germs, for the drop in temperature in the course of a few hours and accompanying improvement in the patient's condition after a dose of vaccine, cannot be explained by the action of any

of the known antibodies which take from five to nine days to form in the blood."

In the matter of dosage we have found considerable variation in patients and in varieties of germs. In acute cases larger doses are borne than in chronic ones and the doses must also be given more frequently. As a rule we commence with 100 millions and increase the dose according to the reaction produced at the point of injection. To benefit the patient, considerable local inflammation must be produced at the point of injection. Irritation is produced by a large dose whether the infection has cleared up or not.

I will report the histories of a few cases that have presented points of special interest.

Case 1.—An attorney, aged 65, in active court practice, and always, heretofore, in good health, developed suddenly dangerous heart symptoms, intermittent pulse, shortness of breath, anemia, loss of flesh, etc. No organic lesion could be discovered. The urine contained a small amount of pus. Culture resulted in a free growth of *Staphylococcus pyogenes aureus*. Vaccines were administered and rapid improvement in all symptoms took place at once. The urine was sterile in six weeks and the patient was perfectly well. Subsequently he had a return of symptoms in a mild form and culture of the urine revealed the presence of the colon bacilli. Colon vaccines were given and the infection rapidly cleared up. He has during the past two years had no return of his heart symptoms and has pursued an active life.

Case 2.—Mr. S. a student had chronic appendicitis. Urine was normal upon chemical and microscopical examination. Culture revealed the presence of colon bacilli. At operation the appendix was found embedded in a mass of adhesions. No pus was found but the bed from which the appendix was dug out looked so suspicious of infection that a split tube drain was inserted. Profuse supporation commenced a few hours after the operation and continued for a week after which time the wound healed rapidly. Four days following the operation the patient suffered from suppression of urine, only two ounces being secreted in twenty-four hours. The urine was loaded with casts and pus. Saline enemas, sweating with pilocarpin, and steam baths, relieved the pressure on the kidneys and the secretion was restored to a normal amount in two days. Vaccines were prepared and given every five days. The urine became sterile in two months. This was undoubtedly a colon infection of the appendix, and the rapid multiplication of germs following the breaking up of the adhesions, threw a large number into the blood increasing the number passing through the kidneys to such a degree that their resisting power, which had proved effective for so long, was overcome and acute nephritis resulted.

Case 3.—Mr. A. had erysipelas of the face following a slight injury above the left eye. The infection spread rapidly over the entire face and scalp. His symptoms were very severe. The usual local and constitutional remedies were used without giving relief; streptococcic vaccines made in the laboratory from a case of suppurating erysipelas were given without benefit. Culture of the urine was negative, one of the very few cases we have had in which the infecting organism was not found in the urine. I then made a few punctures in the skin so that serum exuded, rubbed the surface with sterile cotton and inoculated the culture media. A free growth of streptococci occurred from which vaccines were prepared. By this time the patient was in a very serious condition. He was delirious; temperature was 105 F. and pulse 130. Five hundred million dead bacteria were injected and in three hours his temperature was normal, his mind was clear and he made so rapid a convalescence that he was discharged in less than a week. Injections of vaccines were given every day when the temperature went up, resulting always in a drop to normal within a few hours.

Case 4.—Mrs. M., an operative abdominal case for general pelvic infection. The uterus and appendages were removed. Gall-stones, unsuspected before opening the abdomen, were found in the gall-bladder but not removed because the condition of the patient would not permit a second operation. Urine was normal previous to operation. For two days following operation she suffered considerable pain in the region of the gall-bladder and had scanty urine loaded with pus, casts, and colon bacilli. The abdominal wound suppurated and much sloughing of tissue took place. Vaccines of colon bacilli were given and culture of abdominal pus giving free growth of streptococci, these were

also made up and injected. Her temperature rose high at times but always responded to the injections which were given every three days. The sloughing finally involved the bladder so that we had a vesical fistula for a time. After the sloughing tissue was all removed healing occurred rapidly including the large opening in the bladder. This case is a peculiar one, presenting as it does a colon infection of the kidneys and a streptococcic infection of the pelvis and abdominal wall.

Case 5.—Mrs. B. was seen by me in consultation with Dr. McMullen of Cadillac. Four weeks before my visit the doctor had removed an infected appendix. Following the operation the patient developed daily chills and high temperature. An abscess was found and evacuated which had no effect upon the chills and fever. Antistreptococcic serum was given several times without producing any improvement in symptoms. When I saw her she was very anemic and weak. She was having a chill every day followed by temperature exceeding 104 F. Her symptoms clearly indicated the presence of pus somewhere, but none could be located. The drainage track was nearly healed and was not discharging. Culture from a sterile pledget of cotton passed into the drainage track was negative. Her urine was normal upon chemical and microscopical examination. Culture secured a free growth of colon bacilli and diplococci. I could scarcely believe that her symptoms could be due to a blood infection without a local focus of suppuration, but had the vaccines made up and sent to the doctor for trial. He writes me the following history:

"In reference to Mrs. B. would say that she has improved very much since you saw her. For several days after we began using the vaccines we got quite a little reaction after each injection, but the pulse and temperature soon became normal and remained so for two weeks, then we had a return of the chills, very mild, but followed by a temperature running anywhere from 102 to 104 F. and lasting but a short time, not more than an hour or two. The use of the vaccines for three or four days would bring about a normal condition again. Of late we have felt that the fever would not return and that we were out of the woods entirely, but last Friday she had another slight chill followed by a slight rise in temperature and so we had the nurse use the vaccines again; also Monday evening and we will use it again this (Wednesday) evening. Now the patient is looking quite well and sitting up about half the time, has a splendid appetite, good free action of the bowels, sleeps well, has no pain or soreness of any kind and is doing well."

The doctor confounded the rules for giving vaccines with those for giving serums and discontinued the injections too soon. For purposes of scientific proof this was fortunate, for nothing could be more conclusive than the repeated recurrence of chills after the cessation of treatment, which yielded so promptly to additional dosage. Vaccine treatment should be continued until bacteriologic investigation prove the absence of the infecting organism.

Case 6.—I am indebted to Dr. Spoor for a history of this case whom he did not see, but for whom he prepared vaccines. Mrs. H. confined by her family physician developed sepsis. Another physician called in who treated her for one week, gave two doses of streptococcic serum, temperature 104 to 105 F., no improvement. Another physician called in consultation advised continuance of treatment which was done for two days more—no improvement in temperature and general condition worse. Urine was sent to the laboratory and staphylococci found. Vaccines were made and given every day or every other day. After the third dose temperature did not go above 100 F. Patient's general condition improved and vaccines were given once a week. Complete recovery, and patient's husband reports her to be in excellent health.

CONCLUSIONS

1. Vaccine therapy is a valuable therapeutic resource.

2. Bacteriologic examination of the urine preceding operative procedures, for obscure infective processes, may often give important information even when the urine presents no chemical or microscopic abnormalities.

3. Infective organisms in the blood will usually, but not always, be found in the urine.

4. The presence of infective organisms in the urine is a more frequent cause of

acute nephritis following operations than is the ether administered as an anesthetic.

5. Granting that free drainage is established and no pockets of pus left to add fuel to the fire, the systematic and proper use of autogenous vaccines, early in the course of the disease, will cure most cases of acute infections.

6. Chronic infections will be all benefited, and uncomplicated cases will be cured by proper vaccine therapy.

7. The medical center of each section of the state should have a well-equipped laboratory, with the services of a young man skilled in bacteriology, and the profession should freely make use of his services in this line of work. The time required in doing the laboratory work and the extreme care necessary to avoid errors render it impossible for the practitioner to do his own bacteriologic work. Efficiency can only be secured by constant practice, and all of this work in a given community of moderate size should be relegated to one man, the attending physician receiving the vaccines from the laboratory and administering them according to the clinical indications.

BENEFITS OF SOCIETY MEMBERSHIP

There are many benefits to be derived from membership in a local medical society. The immediate benefits are those of privileges to attend meetings where the current medical topics are discussed; to have the State Journal come once a month, and to have medical defense in alleged malpractice through the membership in the state society. Eligibility to the state and A. M. A., as well as the medical societies is obtained by local membership. But, more important really than these things, which are more or less selfish, is that, by being an active member in a local society, you place yourself among those who in every community stand for progress in the profession, and feel that you are a factor in this advancement. There can be at least three classifications of physicians. There are, first, those who never get any farther than when they graduate from medical school—they are in the business of medicine. There is a second class, which not only becomes licensed to practice, but absorbs much of the progressive work done by others; and a third class, which does this and in addition attempts honestly to contribute in some way toward actual advancement. To the first class even a medical society membership is of little value, but to all who belong to the other two groups the local society is essential.—*Bul. Kalamazoo Academy of Med.*

LINES WRITTEN IN A REST CURE WITH APOLOGIES TO R. KIPLING

When the rest cure's last meal has been eaten,
  And the dishes are washed and dried,
When the oldest cow has been butchered,
  And the youngest chicken has died,
We shall fast and, faith we shall need it,
  Be empty for one year or two,
'Til the hunger of all good stomachs
  Shall set us to eating anew.

And those that are fat shall be happy,
  They shall sit in a dining chair
And carve at a ten-pound pork roast,
  With entrees of heaviest fare.
They shall have real cows to milk from,
  Cabbage, corn beef and stew.
They shall eat for an age at a sitting,
  And never be full at all.

And only hunger shall urge them
  And none of the stomachs shall pain,
And no one shall eat for money,
  And no one shall eat for gain;
But all for the joy of the eating
  And each in his separate way,
Shall take the food as he wants it,
  Whether 'tis onions or hay.

Only those who have gone through the "Stuffing Process" of a rest cure—with its raw eggs, milk, beefsteak ad nauseum, ad infinitum, add any food one can think of—can appreciate this poem.

Gertrude Smith, Hastings, Mich.

By courtesy of Dr. Collins H. Johnston.

UNNECESSARY COLPOTOMY*

JOHN J. REYCRAFT, M.D.
Petoskey, Mich.

Knowing that in the practice of surgery "many things are done that should not have been done, and many things left undone which ought to have been done," I venture this paper under the above caption. A surgeon finding in the pelvis a large fluctuating mass which he has reason to believe contains pus or serum likely to soon become infected, should have no hesitancy in immediately cleansing the vagina and the intra-uterine cavity as thoroughly as he would the skin before a surgical operation, and make a colpotomy posterior to the cervix. By the procedure he will be making a necessary colpotomy and thereby give to the pelvis a drainage, which can be gained in no other way. The danger of infection into the pelvis through the vagina is very slight during inflammatory process as a superabundance of secretions tends to cause an outflow rather than an inflow; therefore should there be any germs which might cause infection lurking near by, they are more apt to be washed out by far, than to gain entrance. I have yet to know one case in many years' experience in doing this work where there has been pelvic infection by this method even in unclean and unprepared vaginas.

Many things could be said to encourage this very needful operation, but it is not the mission of this paper to deal with that thought.

Many conditions in the pelvis and the lower abdomen necessitate operations, such as pus, appendicitis, salpingitis, cystic tumors, myomectomies which necessitate opening into the pelvic cavity supervaginally. Ruptured uterus, by women endeavoring to produce abortion, etc., are most often operated on by making abdominal incision, median, lateral or otherwise, to secure a good view of what we have to do and to more intelligently do what has to be done. It does not follow, however, that because we operate through the abdominal wall, a drain must be had by that route also. Many surgeons contend that intra-abdominal pressure is sufficient to force fluids against gravity, and that the drainage we get is the best drainage we can have. This is all right and necessary when dealing with operations on man, but when it comes to woman, it is altogether a different matter, and I wonder at times if in women of mature age it is not advisable to make all our drainage vaginally and close the abdominal incision complete. In pus cases we can hardly ever leave the drainage in the abdomen, and secure a solid wall. Many times have I seen cases in which the suppurating process rendered the closing of the wall inadvisable in order to secure drainage by that route, thus necessitating leaving the wall patulous. At times the pus, draining, passes alongside the tubes and breaks down all efforts of Nature at closure. Thus we have a wall so weakened that traumatic hernia naturally follows, which necessitates a future operation which may or may not be successful.

Had we not put in these tubes through the abdominal wall in the female the process of healing would have gone on so quickly that before the pus began to accu-

* Read at the Forty-Sixth Annual Meeting of the Michigan State Medical Society, Detroit, Sept. 27-28, 1911.

mulate the wall would have closed, and then we would have had little care for future disability or future repair. Intra-abdominal pressure aided by gravity such as we have when drainage is made through the bottom of the pelvis posterior to the uterus has been in my experience the best drainage. A colpotomy made after this fashion might by some be called "unnecessary," but it is an easy matter to make this drainage by placing tubes extending any distance into the abdomen. These can be placed anywhere you wish as far as the Morris pouch, if necessitated by appendiceal abscess extending up to the liver. A long tube, 18 inches long, can be laid under the intestines, and by making several openings in the same, make it serve the purpose of half a dozen tubes placed perpendicularly. This kind of drainage I claim is the very best in women.

There comes in every surgeon's experience cases which are a study to know whether or not to leave in the drainage. The dilemma might be solved by making a colpotomy and inserting a small drainage which can be left *in situ* for two or three days till the danger is past. This may not be necessary, yet can be done in five minutes' time and no danger of wounding vital organs or structures need deter you. Many cases which have resulted fatally might have lived if necessary precaution had been taken. The mooted question of placing drainage after an operation for extra-uterine pregnancy can be well determined by this procedure which works on the same principle as the old adage "an ounce of prevention is worth a pound of cure."

After any and all operations in the abdominal cavity when the patient seems not to be doing well, it may be unnecessary, yet at the same time it is safe to do this operation. Those of us are cowards who carry the idea "as a tree falleth so shall it lie" into our surgical procedures. No intelligent surgeon has a right to stand by after an operation has been made, and the indications are that the case is not doing well, and except if there is infection, that the peritoneum should do what could be more easily done by a drainage tube. Anesthetics should again be given and colpotomy be made, as no harm can be done by this procedure even if it were unnecessary, and should the necessity exist for its insertion the patient will be inestimably benefited, and the chance for the recovery heightened.

I have in mind a case which occurred in my practice in the month of June this year in which the patient so far recovered as to leave the hospital after a pus appendectomy. After leaving the hospital she began to develop fever, and the symptoms all pointed to accumulation of pus in the abdomen. Rather than make an exploratory incision in the abdominal wall, I determined to go in by way of the vagina, and was successful in reaching the object of my suspicion, a large pelvic abscess which had not drained through the drainage tube retained in the abdominal wall. To make doubly certain that I had reached all the pus, I made another opening 2 inches above McBurney's point and found nothing, but at the same time ascertained that there was no free pus anywhere else than I had reached vaginally. Seeing this, the case referred to, as I did, I determined that from then henceforth in pus appendicitis in the female, I would ever place drainage as I am advocating in this paper.

As I am writing this paper, I recall several laparotomy cases, among many that I have performed that went bad in my practice. In one I remember of removing a cyst in the broad ligament with no excuse whatever for having infection. Such occurred, and before I knew

what I was doing, the case had got beyond assistance. As the vagina was clean, and there was no danger of infection had I opened through into the pelvic cavity, I can readily see how that case could have been saved.

Another, a simple ventral fixation for partial procedentia, became infected, almost died, and would have done so had I not later made a colpotomy. Had it been done early, say at the time of the operation, I might have avoided a prolonged and dangerous illness.

Still another simple operation to free adhesions, incurred at the time of a previous appendectomy, became infected and finally died. That case undoubtedly would not have succumbed had the safety valve been inserted at the time of operation.

These cases mentioned occurred among many hundred abdominal operations, and had every one of those hundreds had inserted a tube through the vagina at the time, it is hard to say whether we might have had deaths to the number that I had without, due to pelvic infection through the vaginal opening. I may be wrong, but it now seems to me that my death-rate would not have been as great.

If even one life had been spared in the final count, I might feel amply repaid for the dangers incidental to such an operation.

A little discussion right here may be made on the anesthetic that might be given. For my part, I lean very strongly to chloroform, as it can be given more quickly, and I believe with less danger than ether. In the giving of chloroform for the past twenty-two years, which annually mounts in the hundreds, I have never yet had a fatal case, and very rarely have had any concern. Not having given ether, I cannot speak authoritatively about its use, but when one finds a remedy that seems good enough, it seems to be well enough to let well enough alone, and I therefore advocate chloroform as the anesthetic to be used.

DISCUSSION

Dr. A. S. Wheelock, Goodrich: In reference to the question of anesthetics, while chloroform has proven so safe and devoid of danger in Dr. Reycraft's experience, what shall we say if on a certain line of railroad near my town there are three stations in succession where in the last five years there has been a death from chloroform unexpectedly in each of these towns, and it is true that the chloroform was given in each case for what was supposed to be a minor operation. If a patient died from ether I believe my conscience would trouble me less than if a patient should die from chloroform narcosis.

Dr. C. S. Cope, Detroit: I heartily endorse what the doctor says. As far as chloroform is concerned, I have used it for 40 years and I have never had any trouble. Now the difficulty is not with the chloroform or ether, but with the man who gives it. The principle underlying anesthesia is, prepare your patient. The trouble is that people give chloroform before the patient is prepared. A dentist says to me, "I want you to give chloroform to a Miss So and So, to have a tooth extracted." I say, "I won't do it. I don't know what is in the abdomen, uterus or intestines; I don't know but that the system is loaded down with indican, and you get that reaction and the patient may die from the chloroform or ether, or whatever you give." It is an excellent thing to have both chloroform and ether. Have two little two-ounce bottles, cut a little ventilating shaft in a common cork, and have a little cotton batting on either side, and you have an excellent dropper. If the patient is not doing well with ether a few drops of chloroform will take the trouble away. If you have a patient with chloroform that is nervous, and you can't quiet him down, a few drops of ether will quiet him, and then as you go along change as needed. Always have your rectal speculum ready and if everything is not right, dilate the rectum. By so doing you flush the capillaries by reflex action and the danger is over.

Dr. A. I. Laubaugh, Calumet: A number of years ago colpotomy was recommended for infections, and I have been following that to some extent, and I can fully endorse what Dr. Reycraft said about its safety.

In regard to anesthesia, I have received many answers in commendation of chloroform from Dr. Hall. Having seen several patients collapse under chloroform, I abandoned it entirely, and use nothing but ether now.

Dr. J. H. Carstens, Detroit: I perfectly agree with the doctor on the subject, and he has brought out pretty well everything. It is wonderful how much you can do on that line. I often do that nowadays in cases of pus-tubes and pelvic abscesses, where patients are in a bad condition. I have one now in the hospital that I operated on, I think, last April. She came here from Monroe, and I sent her back home until she picked up, and asked them to send her back to me after she recovered from this, and then I would operate on her later, in three or four months. She came here about two weeks ago, walking on crutches, with an inflammatory condition in the pelvis, leg drawn way up, and so I operated as she had picked up wonderfully, her blood index being improved, I then removed the diseased tube and ovary, cleaned out the pelvis, put in a drainage tube, and did that by abdominal section of course, and she is now able to straighten her leg. She threw her crutches away and walked straight like another woman—which shows that abdominal surgery will do some immense things.

Chairman R. R. Smith, Grand Rapids: Dr. Reycraft spoke about the advisability of doing a colpotomy in all cases of appendicitis in the female as a routine thing. I take it he would restrict this statement to those cases where there is unlimited infection, where the pus has gotten beyond the appendix and is free in the peritoneal cavity. I think this would be a questionable procedure. I can see the value of it where the pus has plainly invaded the pelvis, but since quickness is necessary in operation and since oftentimes the pus is restricted to the region of the appendix, although unlimited, it would seem to me rather a questionable procedure as a routine. I have, on several occasions, evacuated secondary accumulations of pus following appendicitis in the female through the vagina, and it really has proven of great service, as it was in the case which he mentions. Now where such accumulations occur in the male we are often in a very embarrassing position because of the inability to reach them safely from a point where you can get good drainage. I should very much question its employment as a routine thing in the class he speaks of.

Dr. Reycraft, closing: I am glad Dr. Smith agrees on some things, but he brings up questions which I had not thought of when I first wrote the paper, and I probably overlooked some things. When we get pus appendicitis, where the pus is walled off completely, in long-standing cases, it might not be possible to make this operation, but if we get a case where there is free pus in an abdomen, without the walling off, I know of no better way in which you can get the pus out than to have this tube in the pelvis. Those of you who have operated for that kind of trouble will know there is sometimes a deep cavity in the pelvis where we have to put in a drainage tube, and if we can put it in where it is most needed I think it is a desirable thing. Colpotomy, now, is a wonderfully easy method, as Dr. Carstens says, where you can get a pus tube. I don't see that it is necessary to take off every pus tube at the time you get it to operate, because there are lots of times when you remove a pus tube and put in abdominal drainage and you will have a very sick patient, but if you can get into the pelvis, put in a drainage tube and leave it in there. Later when the pus has drained off, and you don't have to go in through floods of pus, go in there and complete the work. A secondary operation may be necessary. As for the matter of anesthetics. Years ago, when I was anesthetist in Harper Hospital, we gave chloroform altogether. I think anesthetics, like anything else, become fads; men will take up with something new, ether or something else. Now I see they are going into this nitrous oxid-oxygen. I don't know whether it is a good thing or not. I don't know whether we should all get in the band-wagon and help boom anything of that kind or not. I think we can use our old anesthetics. I would just as soon have chloroform, and can give it, and any man who understands it well can give it. One time I was at the New York Polyclinic taking a course. They were giving ether altogether, and the patient would get cyanotic, and it did not seem that the idea was right. I suggested to some one to give chloroform, and he did so, and I think it took about ten minutes to get that man out from the chloroform, because

that anesthetist started to give the chloroform just the same as they gave ether. A chloroform anesthetist has to be skilled along that line, and if I had occasion, and could have an opportunity to show you how to give chloroform I don't think any of you would think it is very dangerous. I gave it in Harper Hospital thousands of times, and since I have been in practice I have also given it, and I don't think it is dangerous when you know how to handle it. A woman does not always have to run a straw in a cake to know whether it is cooked, but she can tell when she looks at it. It is just as much so when you are an anesthetist in chloroform; when you have had a great deal of experience you can tell without any straw whether you are giving an anesthetic right. The reason we are having bad results in chloroform is that we have not succeeded in becoming chloroform anesthetists. We all give those other things. I believe that chloroform is the easiest thing to give; you can stop quickly. Any of you who want to give ether, with the cold freezing sensation in the lungs, with the danger afterwards of pneumonia, you are welcome to give it, but I don't want to give anything so radical as ether and give nothing else but ether. It may save lives, but in twenty-one years I have never had a death in giving chloroform, and I don't see why we should be so scared of it.

I am pleased with the discussion. Colpotomy is the easiest, simplest, nicest, best thing to do, and I do wish that the profession would employ it more. If this paper would add a little encouragement to each one of you to go into the pelvis and open that up and explore, no matter for what—for tumors, abscesses or any old thing—I believe the drainage through the pelvis would save many lives.

PRIMER

Children, what is that large building? It is a hospital. Who built the hospital? The people. What did they build it for? For doctors to fight about. Does the doctor make money out of it? He does not. Why not? Because he is an ass. Does the superintendent get paid? He sure do. Does everybody but the doctor get paid? They do. Why cannot the doctor make his patients pay him at this hospital? Because of the rules. What rules? Those made by the board of managers. Does the board know anything about a hospital? They do not. Then why do they work at it? They do not work. Are they pleased to see their names in the papers? You bet. Does the doctor need the hospital? Surely not. Does the hospital need the doctor? It surely does. Then why not pay him? Because he is still an ass. Does he do the mine's contract work for nothing? He does. Why does he do this? Because he is some more an ass. Does the contract doctor get paid for what he does for the miner? He does. Why does he send them to a hospital? Because he is a smart man. Who then gets the most good out of the hospital? The nurse and her young man and the contract doctors. Does the state help the hospital? It does. Why does it help the hospital? Because they want the votes of the board and all their friends for the G. O. P. If they do not get them what happens? Then no appropriations worth mentioning. Do the people help the hospital? Some do and some do not. What way do they help? Principally with their mouths and old sheets and things.—*Medical Program*, Washington Co. (Pa.) Med. Soc.

1912 DUES ARE NOW DUE AND SHOULD BE PAID BEFORE APRIL FIFTEENTH

A CASE OF PELLAGRA*

L. W. KEYES, M.D.
Whitehall, Mich.

The following is a brief report of a case of pellagra that came into my hands the past summer:

Mrs. W., aged 45, was born in Sweden and came to the United States when she was 16 years old.

Her father died of apoplexy at the age of 82. Her mother is living and in good health. She had no sisters, but there are two brothers in good health and none dead. Feb. 23, 1911, her husband died of carcinoma of the stomach.

During the past two years she did not fell as well as usual and lost some flesh. Besides her housework she did a great deal of fancy needle work, and while never a real good sleeper the past two years she slept less than usual and at the suggestion of a friend she commenced the use of trional, taking 10 grains occasionally.

In March, 1911, she first consulted me for sore mouth and lips, which she thought was caused by kissing her husband during his illness. Excepting herpes of the lips I found nothing abnormal.

About April 22 she rode into the country and during the ride her hands and face were exposed to the sun's rays. Immediately following the exposure the dorsal surface of her hands, also the nose and cheeks became red like a severe sunburn. She applied home remedies for two weeks with no improvement — in fact, the hands were growing worse when she sent for me.

I found the nose and cheeks slightly red and the hands intensely so and slightly swollen.

Two or three nights previous to my visit she had slept but little because of the severe burning of the hands. The cause of the condition was uncertain, but the most likely one that occurred to me was some vegetable poison that she had come in contact with the day she spent on the farm, and it was made worse by the treatment.

Her general health was about as usual. I prescribed soothing applications and directed her to keep me informed of her progress.

A few days later she complained of burning in her mouth, though examination discovered nothing wrong. I gave her a tonic of iron, quinin and strychnin, and her appetitie, which was not good, became better; her hands also improved, but the burning in the mouth continued throughout her illness, sometimes better, sometimes worse, but never leaving her.

May 21 she was not so well, complained of numbness in her legs with sensation of weight, not sleeping well, bowels constipated, nervous and talkative — some days she would talk constantly. Chloral was given till sleep came, after which she was quiet and felt better.

I added arsenic to the other treatment. During the last week in May and till the middle of June her appetite was fairly good and her hands were nearly well, but she could not sleep without some hypnotic and she expressed herself as being very tired.

From June 14 to June 28 I was out of town. About June 18 she was taken with vomiting and another physician was called.

* Read before the Muskegon-Oceana County Medical Society, Oct. 13, 1911.

I saw her the 28th, when she was vomiting occasionally, could retain scarcely any food, and had a severe stomatitis. There was intense burning of the dorsal surface of hands and feet though there was no redness of the feet at any time. July 3 she took nourishment and said she felt better, but about 3 p. m. her daughter noticed that she acted strangely and in a few minutes she became violent, requiring force to keep her in bed. I saw her at 4:15 and gave her hypodermically half tablet hyoscin-morphin and another half at 4:45, and 10 grains trional at 5:15. She became quiet and rested during the night but did not sleep any.

From the 4th to the 12th she was restless, talking a great deal and hysterical. On the 14th she commenced to improve, appetite better, slept very well, clear in her mind and stomatitis relieved. She continued to improve and with the exception of the burning of the feet, which interfered with her sleeping, she was apparently doing well till the night of August 8, when she did not sleep any, nor the night of the 9th.

The 9th she talked all day and was delirious. On the morning of the 10th I was called and found her wringing her hands, but could get no reply to my questions. I gave hypodermically tablet hyoscin-morphin and part of 10 gr. veronal. In the evening I gave another tablet and 10 gr. veronal, and she slept one hour during the night and was quieter the morning of the 11th. She moaned all of the 12th and in the evening I gave chloral gr. x every hour for three doses and she slept a little that night.

The evening of the 13th the chloral was repeated but she moaned all night. The 14th at 7 a. m. I gave 1½ tablet hyoscin-morphin and 10 gr. trional, which last was repeated at 8:30 and 11 a. m. and 1 and 3 p. m. She slept two hours and was quieter.

At 9 p. m. the nurse gave 10 gr. veronal and 5 gr. at 10 and 11. She did not sleep any during the night but dozed some in the morning, was quiet all day and took nourishment. She slept most of the night, waking occasionally.

The 16th she took food, but was very restless, and during the afternoon was kept in bed with difficulty. At 9 p. m. we gave 10 gr. veronal. Slept two hours and became restless. At 2 a. m. the 17th she was given 10 gr. veronal, but no sleep followed, though she was quiet in the afternoon. During the 18th and 19th she was comatose and died at 1:30 a. m. the 20th.

ADDITIONAL REGISTRATIONS IN MICHIGAN BY RECIPROCITY

Name and Address		College	Qual. No.
Krieger, Albert G.	Newport, Mich.	Cleveland Hom. Coll., O., 1899	II with Ohio
Fuerbringer, Ralph O.	Saginaw, Mich.	Med. Dept. Johns Hop. U., 1908	1 " Maryl.
Pankhurst, Charles T.	North Star, Mich.	West. Res. Univ., O., 1904	I " Ohio
Dardas, James Aloysius	Detroit, Mich.	N. W. Univ. Med. School, 1909	I " Ill.

THE TREATMENT OF TRIFACIAL NEURALGIA BY DEEP ALCOHOLIC INJECTIONS*

FRANK BURR TIBBALS, M.D.
Detroit

Trifacial neuralgia, or *tic douloureux,* is a degenerative disease of middle or later life. While occurring occasionally in young adults it is rare before 40 and is met with relative frequency until the end of life at 70, 80 or even 90 years of age.

The disease seems to be a true neuritis involving one or more of the branches of the trifacial nerve and frequently all of the main trunks, after its full development is reached. Many predisposing causes are cited which probably are not predisposing factors. "Post hoc, ergo propter hoc" is not proved in this instance. As before stated, the disease is regarded as a true neuritis, coming in the degenerative period of life with no constant causative factor and hence no reliable plan of prophylaxis.

The diagnosis is based on the persistent, recurrent, spasmodic pain, usually limited to one side of the face and covering in area the distribution of the nerve or nerves affected. Eliminating antrum and sinus disease and inflammations about the nose, mouth, gums and teeth, where a definite lesion is discoverable and symptoms are of short duration, we have left but a neuritis to explain the persistent spasmodic pain. The characteristic spasms of pain are induced by very slight external irritation, such as exposure to cold air, the touch of food and drink or the lightest touch on the cheek. Eating becomes almost impossible and the unfortunate victim suffers from loss of nutrition and loss of sleep because of the recurrent paroxysms of unbearable pain.

Until recently, treatment of this disease has ranged from every analgesic drug in the pharmacopeia to peripheral or deep resection of the affected nerves, or removal of the gasserian ganglion. Drugs are useless except for temporary relief. Nerve resection has almost invariably been followed by recurrence of pain. Gasserectomy is a major operation with considerable mortality, much disfigurement, and constant danger of resultant paralyses. The middle meningeal artery and the sixth nerve lie so close to the ganglion as to be frequently injured, and recurrence of all symptoms is not uncommon after gasserectomy. There are probably some cases where the lesion is intracranial behind the ganglion, and hence even removal of the ganglion may not cure the patient. Kiliani reports six cases, recurrent following gasserectomies, coming to him for treatment by his injection method and relieved thereby.

Of comparatively recent date is a method of treatment which assures as certain relief as any operative procedure, without danger to life or function and without resultant deformity. In 1903 Schlösser announced his successful treatment of trifacial neuralgia by deep injections of alcohol, through the intrabuccal route. Soon after, Levy and Baudouin published the technic of their extrabuccal route. Both methods have as their object the reaching of the main nerve trunks at

* Read before the Kent County Medical Society, Nov. 22, 1911.

or close to their exit from the basal foramina of the skull. It seems not to be necessary to reach the nerve sheath for the diffusibility of the alcohol brings it in contact with the nerve if the injection places it within reach. Most of the reported work with this new method has been done in this country, and most workers, except Kiliani, prefer the extrabuccal route, through the cheek. Access to the nerve trunks is easier and just as certain by this route and there is less danger of infection.

The fifth nerve is a sensory nerve with one motor root. It distributes sensory filaments to the orbit, eyelids, nose, gums, teeth, tonsils, palate, sphenoid and ethmoid cells, the frontal and maxillary sinus, nasal fossæ, pharynx, articulation of lower jaw, ear, parotid gland, scalp, forehead and face, gustatory filaments to the anterior two-thirds of the tongue, and motor filaments to four of the muscles of mastication. After leaving the gasserian ganlion it divides into three branches: the first or ophthalmic making its exit from the base of the skull through the sphenoidal fissure, the second or superior maxillary through the foramen rotundum; the third or inferior maxillary through the foramen ovale, accompanied by the motor root. Because of the wide distribution of the branches of the trifacial nerve it is often extremely difficult to determine which branch is at fault and usually complete relief is not obtained until both the second and third branches are injected.

Attempts to inject the ophthalmic branch through the orbit have been followed by such pronounced local symptoms as to alarm the operator and prevent a second trial. Peripherally the frontal branch may be reached through the supraorbital foramen. Practically, repeated successful injections of the other branches relieves all pain in the area of distribution of the ophthalmic branch, by reason, I believe, of the diffusibility of the alcohol.

The superior and inferior maxillary branches are reached through the side of the cheek. The patient is lying down with the unaffected cheek resting firmly against the table. The skin should be disinfected, the needle and syringe sterilized. The long, strong needle used in lumbar puncture is satisfactory. It should be graduated in centimeters up to 5, and fitted with a blunt-pointed stylet. Any type of syringe holding 2 c.c. which can be attached to the needle without leaking will suffice.

For the superior maxillary branch: Find the posterior border of the orbital process of the malar bone, draw a straight line down the face to the lower edge of the zygoma, insert needle 0.5 cm. (one fifth inch) posterior to this point. Withdraw stylet a little until well through the skin, then push home and feel the rest of the way with blunt point. Push needle straight in, pointing slightly upward. At depth of 1 cm. the anterior condyle of the inferior maxilla may be encountered; turn needle forward to pass it. At depth of 2 cm. the needle may strike the posterior border of the superior maxilla; turn backward to pass it. At depth of 3.5 cm. we reach the entrance to the pterygomaxillary fossa, and passing through this, at a depth of about 5 cm., the nerve is reached at its exit from the foramen rotundum.

For the inferior maxillary branch: Insert needle just in front of the little tubercle at root of zygoma, inclined slightly backward and upward; at depth of 4 cm. nerve should be reached.

The depth which the needle must attain to reach the nerves at the base of the skull varies somewhat in different skulls; the average depth is as given above. One must feel his way in, and will find that

when the point of needle has reached the desired place it does not readily go deeper and that the needle is quite firmly held in position. Now withdraw the stylet and slowly inject 2 c.c. of the solution, which is alcohol, 80 to 90 per cent., with the addition of cocain, 1 to 2 grains to the ounce of solution. It is well to leave the needle in place for a minute or two after injection is made, and after its withdrawal to seal puncture point with collodion. The injection should be made without anesthesia, and is usually well borne by patients who are accustomed to much greater pain than that of the needle. If the nerve has been reached there is immediate anesthesia of the region supplied by the branch injected. It is never possible to be certain of striking the nerve, but repeated attempts will generally succeed. Usually complete relief from pain does not come until both the second and third branches are thoroughly injected. In about 15 per cent. of cases anatomic anomalies prevent ready access to the superior maxillary branch (an abnormal coronoid process of the malar bone or, deeper, an abnormal wing of the external pterygoid plate of the sphenoid).

DANGERS

Injection of the second and third branches is almost free from untoward results. Sepsis has not been reported, hemorrhage is avoided by the use of the dull stylet, sloughing never ensues, the resultant swelling of the face subsides in a week or two, at the outside. Injection of the ophthalmic branch has been abandoned in this country because of the danger of sixth nerve palsy, a few cases of paralysis of the external rectus and diplopia, followed by keratitis and corneal ulcer having been reported. Rarely, repeated injections of the mandibular branch may paralyze the motor root and interfere with mastication for a few months.

RESULTS

A few cases have not been relieved of pain, either from lack of persistence, faulty technic, impassible bony obstruction or a postganglionic intracranial lesion hence not reached by the alcohol. It is my opinion that when relief does not follow several injections which seem to reach the nerve, the operator should use more alcohol. I have twice used 4 c.c. with perfect success, where I had only partial success with a smaller amount. I believe that a sufficient quantity will diffuse and reach even to the gasserian ganglion. No harmful results followed the use of double the usual amount except an increase of swelling. We have to deal with a neuritis involving part or all of the main nerve trunks and perhaps the ganglion itself. The alcohol paralyzes the sensory fibers, so far as it reaches them, for an indefinite time. If during this period of relief from pain the inflammation of the nerves subsides, pain does not recur. On the other hand, if the neuritis outlasts the temporary degeneration resultant from the alcohol, pain recurs after some weeks or months.

This comparatively new method is by far the best thing we have for the treatment of trifacial neuralgia. The percentage of complete failures is almost *nil*, the prospect of absolute relief exceedingly good. Hundreds of cases have been reported with but few complete failures. It is to be expected that pain may recur. If so, the same treatment will again give relief, usually for a longer period. These injections may be given by any practitioner who will study the anatomy carefully and persist until the patient is relieved. An average of about four injections is necessary, although but one may suffice.

My own experience is too limited for the report of any cases. It is, however,

extensive enough to make me an enthusiast over the results, which are the most gratifying in my professional work. The condition is so extreme, the pain so intense, the patient so pitiable, and the contrast between "before and after treatment" so marked as to be almost dramatic.

In my judgment there is no justification for subjecting any case of trifacial neuralgia to nerve resection or gasserectomy. If I, myself, failed to relieve the patient, I would refer the case to one more experienced with the injection technic, confident that repeated attempts will succeed.

Patrick: Jour. Am. Med. Assn., Nov. 9, 1907, and Dec. 11, 1909.
Hecht: Jour. Am. Med. Assn., Nov. 9, 1907.
Deaver: N. Y. Med. Journal, March 27, 1909.
Kiliani: N. Y. Med. Record, Dec. 10, 1910.
Blair: Jour. Am. Med. Assn., Feb. 4, 1911.

A Heathen Sect

We have never seen the truth of the subject more clearly put than in the following ringing words in the *New York State Jour. of Medicine:*

A little child of 5 years old died of diphtheria the other day, after one "present" treatment and several "absent" treatments by a "Christian" Science mummer. The deluded mother stated that the child had been "in error." By error she explained she meant a "slight sin." In other words, this strange sect teaches that the Judge of all the earth will slay a 5-year-old child for a slight sin. Has heathendom ever evolved a more savage doctrine? It is akin to the horrible belief once taught that hell is paved with the skulls of unbaptized infants.

And these rivals of the Witch of Endor flourish exceedingly, fatten on the blood of their innocent victims and go unwhipped of the law because they call such a doctrine religion, and justice keeps her sword in her sheath and smiles benignantly, if not inanely, on the lawless practices of this sect, because of the cloak of religion with which its votaries sanctimoniously cover their nakedness.

Lodge Practice

These figures we get from a British medical journal, and over there is where they know all about lodge practice, to their sorrow. A lodge of 100 members would have during each year 234 weeks of illness. For this the attending physician would receive about $125. This would be equivalent to attending one man continuously for 234 weeks or four years and six and a half months for $125. This would be about 53 cents a week, and on the basis of one call daily, would amount to 7½ cents a call, including surgical dressings.—*Journal of Iowa State Medical Society.*

Biology and Medicine.—In ancient civilizations and even down to modern times, the one great stimulus to the growth of biological knowledge lay in the healing art. In ancient and medieval times almost all the contributors to biological knowledge, with the possible exception of Aristotle, were physicians, though it is doubtful if an exception should be made of a man who kept a pharmacy shop. At the Alexandrian museum the subjects of natural history and anatomy were carried on by the faculty of medicine, one of the four faculties originally established at the museum.—Bushee in *Popular Science Monthly.*

Small-Pox Quarantine in Practice and Its Failure.—When we read the thoughtless expressions of antivaccinationists we often feel as if the best thing to do with them would be to leave them to their folly, but consideration of the statistics shows how unfair that would be. There are the minors who pay a disproportionate toll in such cases.—George Dock in *Journal of Missouri State Medical Association.*

The Journal of the Michigan State Medical Society

Published under direction of the Council.

PUBLICATION COMMITTEE:

A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
W. J. DuBOIS, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek. (Ex-Officio)

EDITOR.

WILFRID HAUGHEY, Battle Creek.

EDITORIAL COLLABORATORS:

J. V. White, Detroit, 1st District.
George R. Pray, Jackson, 2d District.
....., 3d District.
C. E. Boys, Kalamazoo, 4th District.
T. De Witt Gordon, Grand Rapids, 5th District.
C. B. Burr, Flint, 6th District.
Daniel Conboy, Bad Axe, 7th District.
B. B. Rowe, Saginaw, 8th District.
Robert E. Wells, Traverse City, 9th District.
F. E. Ruggles, Bay City, 10th District.
V. A. Chapman, Muskegon, 11th District.
E. H. Webster, Sault Ste. Marie, 12th District.
C. M. Williams, Alpena, 13th District.
Reuben Peterson, Ann Arbor, 14th District.

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A.M., M.D., Editor, 24 West Main Street, Battle Creek, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

Subscription Price $2.00 per Year, in Advance.

APRIL

EDITORIAL

ANNUAL DUES FOR 1912

The House of Delegates at Detroit instructed the secretary to publish in the May number of The Journal a list of all those members whom his books show on April 15 to be in arrears for the current year's dues. On March 10, 999 had paid for the present year which includes a considerable number of new and reinstated members. There were still unpaid at that date 1,215. Last year it was necessary to remove from the list for non-payment of dues 238, of whom only forty-seven were reinstated during the year, leaving a net loss for non-payment of dues of 189.

Each member in good standing receives The Journal, as well as membership in his local and state societies, and insurance against civil malpractice, which, secured through a commercial company, would cost him not less than $10 per year. This insurance is a real protection.

If you have not yet paid your dues this year will you not do so at once so that your county secretary may send in his report before April 15? May we have the great satisfaction of reporting not one name in arrears in the May number of The Journal!

Notwithstanding the loss last year, new and reinstated members more than made up the deficit, giving us a net gain of 179. Let us hope that we can at least double this gain this year. There are many physicians in practically every county in the state who are eligible to membership but who are not now members. On one of our advertising pages will be found an application for membership blank. Will you not have your non-member neighbor sign this blank and send it to your county secretary, thus aiding us in extending the benefits of the medical organization and aiding us in carrying out the requirements of the preamble of our constitution: "To federate and to bring into one compact organization the entire medical profession of the state of Michigan"?

THE FORTY-SEVENTH ANNUAL MEETING

The forty-seventh annual meeting of the Michigan State Medical Society to be held in Muskegon June 19 and 20 should be one of the best meetings held by the Society, outside of the city of Detroit, in recent years. The climate of Muskegon is delightful in June. The members of the Society will be thinking of vacations at about the time of this meeting. Those

attending the A. M. A. meeting will have returned. The regular summer vacations will be just beginning. An excellent summer vacation could be secured by attending this meeting in Muskegon, then taking a boat trip around the Lakes, starting from Muskegon, or spending a week or so on the lakes or streams in western and northern Michigan.

The profession of Muskegon are making efforts to entertain us and hope to make the meeting a success. They will be disappointed if at least 500 do not attend. The scientific program bids fair to be one of the best we have ever had. Only a few more places are available on this program and any one desirous of place should correspond with the section secretary at once.

THE AMERICAN MEDICAL ASSOCIATION MEETING AT ATLANTIC CITY

The American Medical Association meets this year in Atlantic City. This city seems to be especially fortunate in having accommodations for large meetings and the A. M. A. has selected it several times within the past few years as an ideal place to hold its meetings. Last year the Association went to the far West which necessarily prevented many of our Michigan physicians attending. The meeting this year is within a reasonable distance and we hope a large representation from Michigan will be able to attend.

The following hotels have been selected as the various headquarters:

General Headquarters: Marlborough-Blenheim.

House of Delegates: Traymore.

Practice of Medicine: Dennis.

Surgery: Chalfonte.

Obstetrics and Gynecology: Haddon Hall.

Ophthalmology: Strand.

Laryngology, Otology and Rhinology: Seaside.

Diseases of Children: Traymore.

Pharmacology and Therapeutics: Dennis.

Pathology and Physiology: St. Charles.

Stomatology: Young's.

Nervous and Mental Diseases: Brighton.

Dermatology: St. Charles.

Preventive Medicine and Public Health: Shelburne.

Genito-Urinary Diseases: Rudolf.

Hospitals: Rudolf.

ETHICS

IV. CONTRACT PRACTICE

Contract practice is a means of securing work with a more or less steady income. Whether an evil or otherwise is a mooted question when all forms of contract practice are considered. Some are undoubtedly ethical, some are variously considered by various physicians, and some are quite generally admitted as bad.

There is a form of contract given by a railroad or mining company which pays a good fee and aims to secure the best of surgical skill. These companies feel called on to furnish the best of attendance to their injured employees, and enter into contracts not so much to congregate the work as to keep damages as low as possible.

There are hospitals and other industries which employ physicians on a salary, taking their whole time. No one condemns this class of contract if the salary is adequate and the business legitimate and ethical.

There is the insurance examiner — a contract practice which is not considered at all unethical but in which more should demand a just compensation.

There are contracts with local industries which are objectionable only when they

pay inadequate fees or disregard the right of the patient to select his doctor.

There is the sick and accident indemnity contract and lodge practice of which the committee of the State Medical Society in 1907 reported at length (see The Journal, July, 1907, p. 379).

That doctors are secured at starvation rates to care for this lodge practice (and the same might be said of sick and accident contracts) witness the following, clipped from the *Medical Program* of the Washington County (Pa.) Medical Society for March, 1912:

"The physician who does the Mooses' work here is paid at the munificent rate of 11 cents a month for each and every member. This amounts to $1.32 annually for medical and surgical services including surgical dressings. There are 290 of them and the year's work will bring him in the magnificent sum of $389.80 for which he has to take the dirty back talk of a lot of men who do not want him, and whose families will not tolerate him at all. He makes bi-weekly reports of all cases and is liable to suspension or dismissal at any time. Besides all this he is looked down on by the rest of the profession as a low-brow who cares for himself only. Surely no intelligent young man would care to enter this class if he but knew what it leads to."

It is not our purpose to discuss these contracts in themselves, but the reasons which make certain of them possible and which prevent their eradication.

Why do doctors take such contracts, and why keep them?

These contracts are a means to a wider professional acquaintance, and therefore acceptable to many. Many young graduates grasp at these contracts as a means to a quick acquaintance and a growing practice. Older men take these contracts as a means of holding the practice they have built up by years of toil, and preventing its falling into other hands. Some men take these contracts as a means of supplying a large office clientele — others to keep busy during necessarily spare hours. But outside of the young graduate probably most men who take these contracts do so as a means of self defense, so to speak. If they did not some other fellow would. Probably very few contract doctors, especially the inadequately paid class, will deny the viciousness of the system, and most of them would be glad to get out of the business if they could and retain their practice.

This is a sad commentary on our professional ideals and standards — but is it confined to ourselves? Do wo not have scabs and strike breakers? Do we not have contractors, merchants and business men who will underbid their neighbors for the sake of getting a little extra business?

The fees paid by some lodges and casualty companies are ridiculously low, and why should we accept them? This very acceptance has tended to cheapen the practice of medicine — has removed the pedestal of respect and esteem on which, formerly, medical men were placed, and is plunging the profession down nearly to the level of a trade.

CALORIC METHOD IN INFANT FEEDING

Every physician who is doing general work should learn how to direct the feeding of such of the infants in the families he attends as have to be hand-fed. If he does not learn, soon the other, his neighbor, will be showing the mothers how. That he does not know is proved partly by the very large sale of proprietary foods and partly by the very large infant mortality. It really makes no difference how a physician feeds his babies if he makes them grow, but some method must be used — any method that has for its basis the amount of proteids, carbohydrates and fats necessary for the proper growth and development of the infant. Or, in other words, the proper quantity and quality of food. The percentage method, the top

milk method and these combined have each had many followers, but there are many physicians who have considered these methods so complex that they have used some proprietary food or condensed milk, with the result that they have failed as often as they have succeeded.

The caloric method may not be ideal, but its simplicity should commend it to those who have felt that other methods have taken too much time to learn, or were too complicated.

Whole milk in a barley-water diluent and cane sugar are used. With sick babies or babies being started on cow's milk, the milk should be brought to a boil as rapidly as possible, and constantly stirred to prevent scumming. Then comes in the matter of judgment and experience in feeding to know how much milk to use, etc. But unless with very young infants one-quarter of milk with small meals makes a safe start which can be increased as rapidly as the child will take it. This gives a relatively larger amount of proteids than fats as compared to the custom of many. This method is very largely German and though not ideal or a sure method for every baby that must be artificially fed, still should appeal to those who have had no method.

There are babies who may need skim milk, or buttermilk. Some that will not gain on cane sugar or milk sugar, but will on a malt sugar. There are others that can only be repaired and made to grow on malt soup or Eiweiss milch.

It is, however, safe to say that many of us need to learn some method whereby we might prevent these patients being damaged and hard to feed. The caloric intake and the caloric requirement should constantly be kept in mind so that a sufficient quantity of food be given. The caloric requirement will vary according to the age and state of nutrition, babies in a very bad state of nutrition often requiring 50 per cent. more than a very strong and vigorous one.

F. E. R.

APPOINTMENTS

Dr. R. E. Balch of Kalamazoo, elected treasurer at the Council meeting, has declined the office, and Dr. Johan Flintermann of Detroit, reelected a member of the executive board of the Medicolegal Committee, has died. In accordance with the by-laws, Chairman Dodge of the Council has appointed Dr. W. A. Stone of Kalamazoo treasurer, and Dr. Angus McLean of Detroit member of the executive board of the Medicolegal Committee. The appointments are until the next meeting of the Council.

OUR ADVERTISERS

We have succeeded in convincing a considerable number of advertisers that it pays to advertise in the official journal of the Michigan State Medical Society. It devolves on the members to make good our claims. Each member of the society owns a certain share of The Journal, and just as great a share as any individual.

Our advertisers help to make The Journal possible. If our members when about to make a purchase would enquire about the article desired of some of our advertisers the rest would be easy. Our advertisers have shown their confidence in us, and it is only fair that they should have some returns. On another page we are publishing a letter received from one of our advertisers which shows how they practically all feel — they are willing to advertise if we can show that it pays.

IN MEMORIAM

Dr. Darius N. Barrett of Detroit, Memphis Hospital College, 1901, died in Chicago, following an operation for bladder trouble and appendicitis. For five years Dr. Barrett has confined his work to diseases of the eye, ear, nose and throat in Detroit. He was 42 years of age.

Dr. James McEntee, Michigan College of Medicine, 1885, of Mt. Pleasant, a member of the Michigan State Medical Society, died January 10.

SOCIETY NEWS

ALPENA COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Alpena County Medical Society took place Thursday, January 18, at the New Alpena Hotel. Sixteen physicians were present as the guests of Drs. W. A. Secrist and James Eakins. Landlord LeDuc prepared a pleasant surprise for the doctors—a special menu folder, giving the program of the evening.

The program following the dinner was held in the Hotel parlors. Dr. Bell, in his inaugural address, gave a lofty conception of the progress of the healing art in the last few years, and urged upon the local physicians a continuance of their zeal toward the advancement of medical science.

Leon F. Rork exhibited for the first time in public the value of the mirroscope to illustrate his address. The use of these pictures magnified upon the screen was a distinct success, and all felt the value of the paper was much increased by this means. His subject dwelt with the value of scientific examinations in suspected cases of kidney disease.

Dr. Ralph Smith of Harrisville, being unable to appear on the program, Dr. C. M. Williams gave some few remarks relative to the prevention of typhoid fever.

C. M. Williams, Secretary.

ANTRIM-CHARLEVOIX COUNTY MEDICAL SOCIETY

Under the sanction and advice of the Councilor of the 13th District, Dr. F. C. Witter, a number of physicians of Charlevoix and Antrim Counties met in Bellaire, Wednesday, March 6, for the purpose of organizing the Antrim-Charlevoix County Medical Society. This organization is made temporarily until the meeting of the State Society in June, the two societies, Antrim and Charlevoix being the two official bodies until that time. We hope that the combined organization may be made permanent then. Both the Antrim and Charlevoix societies were weak and about ready to go out of business and in view of this fact we decided to get together and wage a war in our district for more members and a stronger fellowship and alliance of our registered physicians.

The following were elected as officers of the new Society:

President: A. M. Wilkinson, Charlevoix.

Vice-President: A. T. Budle, Bellaire.

Secretary-Treasurer: R. H. Nichols, Bellaire.

Delegate for Charlevoix: R. B. Armstrong, Charlevoix.

Alternate for Charlevoix: A. M. Wilkinson, Charlevoix.

Delegate for Antrim: Dr. L. L. Willoughby, Mancelona.

Alternate for Antrim: R. E. L. Gibson, Central Lake.

R. H. Nichols, Secretary.

BERRIEN COUNTY MEDICAL SOCIETY

Berrien County Medical Society met in the Green Parlors of Hotel Whitcomb at 4 p. m. March 14. A paper given by Dr. W. L. Wilson of St. Joseph entitled, "Differential Diagnosis and Difference in Treatment of Rheumatism, Gout and Rheumatic Arthritis," was one of the features of the meeting. Dr. Wilson has given the subject years of study and has spent two seasons in Germany studying the German spas and waters. His paper was based on the treatment of 2,000 cases at the Whitcomb Mineral bath houses in St. Joseph. By long observation he is able to differentiate between those cases that will be benefited and those who will not be benefited by mineral baths.

Dr. F. M. Kerry of Benton Harbor gave a very interesting and scholarly paper on "Pseudo-Rheumatic Diseases and Their Treatment." His stand taken on serum treatment of gonorrheal rheumatism provoked some interesting discussion.

Dr. Mable Elliot gave a paper on "Relation of Various Forms of Neuralgia and Neuritis to the Rheumatic Diseases."

Meeting adjourned to meet in Benton Harbor, April 11, when Dr. Bayard Holmes will be with us and present a paper.

H. G. Bartlett, Secretary.

CALHOUN COUNTY MEDICAL SOCIETY

A special meeting of the Calhoun County Medical Society was held in Battle Creek, February 13, at which Dr. George W. McCaskey, of Fort Wayne, Indiana, presented a paper on "Some Observations on the Diagnosis and Treatment of Stomach Diseases." He advanced many practical points and while advocating the use of all modern means of diagnosis urged that we do not lose sight of or neglect the clinical symptoms and findings. He was optimistic in the matter of treatment. Dr. C. S. Gorsline, Battle Creek, presented a paper on "Some Experiences with High Frequency" reporting several cases in which he had used the high frequency current with apparently good results. He believes that this treatment is not of universal application but that it is not used in all cases where it is really indicated and would give good results. Dr. Richard R. Smith of Grand Rapids gave a talk on "Bone Pathology," illustrated by specimens and *x*-ray plates. This was an especially valuable talk. The specimens presented make a very complete museum of bone pathology and show in a glowing manner the lesion presented in the many conditions mentioned. The subject of bone pathology is receiving more attention just at present than it ever has before and very deservingly, for it is the field of surgery which leads more frequently to the malpractice court than any other.

At the regular meeting, March 5, an amendment to the by-laws was adopted establishing four extra meetings each year, to be scientific meetings. Calhoun County will now have eight meetings during the year.

Dr. C. D. Brooks of Detroit read a paper on "Some Observations in a Year's Surgery," calling attention to many diagnostic points and many complications met with in the surgeon's practice. He mentioned especially Embolism, Thrombosis and Ileus which are the surgeon's greatest apprehensions. Dr. Channing W. Barrett of Chicago presented a valuable paper on "The Surgery of Pregnancy." Dr. Barrett is conservative in this work but believes that when surgical procedures are indicated the patient should receive the benefit of these procedures even if pregnant. He reported a number of cases where abdominal sections or other major operations have been performed during pregnancy and the woman has gone on to term. His paper was very optimistic regarding surgical work during pregnancy, without losing sight of the danger of abortion following. Dr. W. F. Martin of Battle Creek presented a paper on "Some Causes of Constipation" which was beautifully illustrated by the stereopticon and *x*-ray plates, showing deformities and abnormal conditions of the sphygmoid and rectum as shown by bismuth paste and the *x*-ray.

The attendance at both meetings was exceptionally large.

R. C. Stone, Secretary.

GRAND TRAVERSE-LEELANAW COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Grand Traverse-Leelanaw County Medical Society was held on the evening of March 5th at Dr. Thurtell's office. Minutes of the last meeting were read and approved. Dr. Holdsworth gave a report on the conditions of the water in Grand Traverse Bay. The hospital committee gave a report to the effect that much progress had been made and that a banquet was to be held at which were invited prominent business men, city and county officials, etc. Thursday, March 14, was set as the date for the banquet.

Dr. Johnson read a report of a case of chronic dysentery, in which the colon bacillus and streptococcus were found and which was cured by vaccine treatment with the above germs.

The society adjourned to meet at Dr. Holdsworth's office next month.

R. E. Wells, Secretary.

GENESEE COUNTY MEDICAL SOCIETY

Genesee County Medical Society was entertained at the home of Dr. F. L. Tupper, February 20.

Dr. Tupper read a paper on "Pain as a Symptom in the Cause of Disease." The subject was fully discussed.

The remainder of the evening was spent with cards and refreshments.

March 5.—Dr. W. G. Bird entertained the Society at his home.

The doctor presented a paper on "Tonsillitis." Following a general discussion, refreshments were served and a very enjoyable evening spent with cards.

These meetings combining medical and social features are proving very popular, about thirty-five members attending each meeting.

C. P. Clark, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

At the meeting of January 30, two candidates were elected to membership; Dr. G. W. Lawton, of Kalamazoo, and Dr. W. N. Kinzie, of Richland. Application of Dr. F. M. Ilgenfritz, of Kalamazoo, placed on file.

An amendment placed on file at the last meeting, to create the office of treasurer as separate from that of secretary, was adopted by majority vote of the Society.

A report from the committee appointed at a special meeting, to spread knowledge about "Medical Freedom," showed that it had been very active for several days previous to the coming of B. O. Flower. Motion prevailed that this committee be authorized to distribute bulletins concerning this movement.

The time ordinarily used for formal papers in the regular afternoon session was taken up by Dr. Charles A. Elliott, of Chicago, who conducted a clinic on heart diseases. The new Clinical Program Committee did some excellent work in obtaining material for Dr. Elliott, about ten cases in all having been brought in. There was only time to discuss seven of these. The doctor stated in the beginning that it was a new venture with him to try to hold a clinic in lieu of a formal paper, and he was not at all sure how the plan might succeed. Any doubt which may have been present in the beginning, however, was soon dispelled, since the forty members who were present stayed throughout and gave the closest attention. All agreed that this was an unusually profitable meeting and interesting as well.

The morning clinical program of the February 13 meeting was the best given since this feature was started, both in number and variety of cases and the attendance. The program, as carried out, was as follows:

Borgess Hospital:

Laparotomy for extensive pelvic inflammation. Both tubes and ovaries removed after the separation of many adhesions. Appendix removed.

Bronson Hospital:

Acute appendicitis. Appendix removed.

Double inguinal hernia in child. The Andrews imbrication method was employed in both sides.

Amputation of cervix; Watkins-Wertheim operation for prolapse; perineorrhaphy; hemorrhoids.

Supravaginal hysterectomy for fibroid of uterus. Tubes and ovaries removed and ends of broad ligaments united over stump of cervix for bladder support (patient aged 40). Hill perineorrhaphy.

Supravaginal hysterectomy with removal of diseased tube remaining from former operation. The indication was intense pain with each menstrual period, incapacitating patient for work for several days each month.

Double enucleation of tonsils.

The administration of salvarsan by intravenous method for secondary lues.

Application of plaster jacket for Pott's Disease had to be deferred on account of lack of time.

At the afternoon meeting there were two clinical medical cases presented—one of sciatica and one of heart disease.

The President, Dr. Clark, presided.

The Board of Censors reported favorably upon the application of Dr. F. M. Ilgenfritz, who was thereupon elected to membership.

The afternoon program consisted of two papers:

1. "Diagnosis of Some Late Cases of Renal Tuberculosis," Dr. Dean Loree, Ann Arbor.

2. "The Prognosis of Mental Diseases," Dr. Melvin J. Rowe, Kalamazoo.

Both papers were of exceptionally high grade, and deserved more discussion than was offered. Both perhaps savored of specialism somewhat more than the average of us is accustomed to, yet, if the members would prepare beforehand to discuss the papers, it would add much to the interest and benefits of the meetings. This could be done, even if the subject is technical, by a little effort. It is hoped by the Program Committee that the members will not look

upon these programs as a little afternoon "entertainment" pulled off for their benefit, but rather does it hope that each member will get in and do something to help make them of real benefit.

Dr. F. E. Barrett has been appointed treasurer, in accordance with the adoption of the recent amendment which creates this office separate from that of secretary. Dr. Barrett will be on hand with receipt book to accommodate all those who wish to pay dues.

Some of the Complications of Pelvic Tumors, With Especial Reference to the Diagnosis

(Abstract of paper by Dr. B. R. Schenck, read at the February 27 meeting.)

The paper was in the form of "case history teaching," the various complications of pelvic tumors being illustrated by cases from the author's experience and general deductions being made from each history.

The following is a brief extract:

The usual symptoms of pelvic tumors are familiar to every practitioner, and the indications for operation are generally well understood. Diagnoses are, however, frequently carelessly and incompletely made. Too often the exact diagnosis is deferred to the time of the operation, whereas the refinements of present-day knowledge require that an attempt should be made to answer every possible question regarding any particular tumor under investigation.

In making an examination for pelvic growth, two physiological tumors must always be kept in mind, namely: a distended bladder and pregnancy. A single case was cited in which first one and then the other was responsible for errors. Recent work of Schoenberg and Hickey on *x*-ray diagnosis of pregnancy and fibroids was referred to.

An unusual specimen of ovarian cyst and secondary abdominal pregnancy was shown.

In making a diagnosis of malignancy of ovarian tumors, age is of little importance. Bilateral tumors of approximately the same size are frequently malignant, as are also tumors which grow into the broad ligament. Another valuable hint is the swelling of the leg when the tumor is small. The most conclusive sign of malignancy is the presence of peritoneal involvement.

Cases illustrating all of these points were cited.

The importance of twists of the pedicle of a tumor, its frequency and the theories of the cause were reviewed and cases of acute and chronic twisting related.

Infection of ovarian cysts was next considered and illustrated by a specimen of cystadenoma of the ovary which had been removed after having been drained for over a year. The original cyst extended to the liver; the specimen was the size of an egg.

Ascites as a complication is especially important because the presence of a large amount of free fluid is often taken as a positive sign of malignancy. Ascites frequently occurs with solid, non-malignant, ovarian growths.

The morning clinical program for the last meeting consisted of two laparotomies for pelvic conditions. Dr. Schenk performed one of these, the pathology being that of a hemorrhage into the left tube and extensive adhesions about the same. After removing the diseased part and covering up adhesions, the uterus was brought up into normal position and held there by suturing the round ligament back on the fundus of the uterus in such a manner as to shorten the ligament.

C. E. BOYS, Secretary.

LENAWEE COUNTY MEDICAL SOCIETY

The March meeting of the Lenawee County Medical Society was held at Adrian on March 12, with a good attendance and great interest shown by the members in the new work. Dr. Seager did himself proud as Quiz Master. The next Quiz Master is Dr. Sutton of Clayton, Michigan. Please prepare for the next meeting.

Subject, "Normal and Pathological Pregnancy as Well as Abortion and Its Treatment." Do not forget that if your dues are not paid by this meeting you will be dropped from the Society and the State JOURNAL as well, so send your check to the secretary.

ISAAC L. SPALDING, Secretary.

MUSKEGON-OCEANA COUNTY MEDICAL SOCIETY

Regular meeting of the Muskegon-Oceana County Medical Society was held at the residence of Dr. I. M. J. Hotvedt, Friday evening, Feb. 9, 1912.

Members present: Drs. Geo. S. Williams, Jacob Oosting, W. P. Gamber, V. A. Chapman,

W. A. Campbell, J. T. Cramer, I. M. J. Hotvedt. Dr. Parker of Hackley Hospital as guest.

The minutes of the last meeting were read and approved as corrected.

A communication from the American Association of Medical Milk Commissions was read.

On motion of Dr. Oosting, seconded by Dr. Gamber, the secretary was instructed to purchase for the Society the book on Proceedings of the American Medical Milk Commission and loan the book to Dr. Hotvedt. Carried.

A communication was read from Cora A. Jackson thanking the medical profession for its kindness to Dr. J. G. Jackson while living, and the attendance at his funeral.

A committee consisting of Dr. Campbell, Dr. A. A. Smith and Dr. Oosting was appointed by the chair to draft resolutions concerning the death of Dr. Jackson.

A communication from the secretary of the Michigan State Medical Society concerning speakers for public meetings was read.

A committee consisting of Drs. Hotvedt, and Gamber was appointed to investigate this matter and report at the next meeting.

A communication from Public Health committee of Bureau of Social Service concerning the milk inspection ordinance before the city council was read and placed on file.

On motion of Dr. Hotvedt properly seconded and carried, a committee of three consisting of Drs. Geo. S. Williams, V. A. Chapman and W. A. Campbell was appointed to wait upon the city council, urge the passing of the milk inspection ordinance and the appointment of a city health officer, separate from the city physician, at an adequate salary.

It was moved, seconded and carried that the secretary be instructed to transmit a copy of the resolution passed at the last meeting of this society, concerning the erecting of a hospital for tuberculosis, to the city recorder and one to C. D. McLouth of the Bureau of Social Service.

The secretary was instructed to ask the American Medical Association for copies of the Owen Bill.

Owing to the lateness of the hour Dr. Hotvedt's paper was postponed two weeks to be read at a meeting on that date held with Dr. Oosting.

Meeting adjourned to luncheon.

V. A. Chapman, Secretary.

WAYNE COUNTY MEDICAL SOCIETY

At the general meeting of the Society on Feb. 5, 1912, which meeting was a general goodfellowship meeting, the following names were added to the active membership roll:

Frank M. Singer, Det. Col. of Med., 1906, Detroit.

C. H. Stiles, Det. Col. of Med., 1906, Detroit.

Oscar Le Seure, U. of M., 1873, Bellevue Hosp. Med. Col., 1874, Detroit.

Dr. F. C. Warnshuis, speaking as a representative of the State Society, presented in an appropriate speech, the beautiful grandfather's clock which was hidden behind an American flag. Dr. C. T. Southworth, also a member of the Committee appointed by the State Society, did the unveiling.

The President, Dr. H. O. Walker, in a few well chosen words, accepted the gift.

The meeting was then taken in charge by the Entertainment Committee, with the chairman, Dr. C. L. Chambers, presiding. The Entertainment Committee produced a number of artists, who delightfully entertained the members with recitations, solos and instrumental music. Later a buffet luncheon was served. About two hundred and twenty-five members were present.

At the meeting of the Medical Section on Feb. 12, 1912, Dr. W. M. Donald read a paper entitled, "An Excursion in Dietetics."

Sixty-five members were present.

An Excursion in Dietetics

By W. M. Donald

The speaker desired to emphasize the necessity of a balanced ration with low proteid values in adults and with high proteid value in children. A series of tables were demonstrated for the feeding of ten children for four days at the Protestant Orphan Asylum, together with the careful weight of all food used and an accurate estimate of their caloric values.

Although the diet was exceedingly simple, averaging three articles for the morning and evening and four for the noon meal, it was found that the caloric value of the food was very high. The estimation showed the possibilities of an exceedingly simple diet. The speaker wished to prove no pet theories but wished only to submit the results of a study of diet in the growing youth. The results showed that the ordinary healthy boy, when

fed up to his capacity, ingests considerably more food than that allowed by most laboratory authorities, thus for instance, the amount of food demanded by boys averaging seventy pounds, as these control lads weighed, is only the equivalent of 1,117 calories per day, while it was found in reality that the average boy consumed the equivalent of 3,000 calories per day.

The interesting fact was brought out that the mortality in the institution where these tests were made was five per thousand for a period of six years, while the death-rate in this city for those of corresponding age was twenty per thousand. The author thinks that the correct dietetic requirement simplified as it has been must have some bearing on the avoidance of untimely and unseemly deaths of the children.

Dr. Jennings in his discussion pointed out the fact of toxic conditions resulting from the ingestion of too much fat. He questioned the deductions of Chittenden since his experiments were performed upon soldiers and athletes. He raised the question, if the ordinary man in the ordinary walks of life could exist on a low proteid diet? Nitrogenous foods do not require as much mastication as other foods.

Dr. Davis in his discussion emphasized the necessity of mastication of starchy foods, pointing out the fact that the hormones already existing in the stomach were thus stimulated by the now slightly alkaline starchy foods and that those foods were more easily digested by their increased mastication. He spoke of the value of the addition of olive oil in increasing the caloric value of cabbage and onions, its caloric value could be thus increased to 9.3 per gram. A low proteid diet is suitable to the developed adult but in growing children a high proteid diet is most necessary.

Dr. Douglas thought that persons chosen to manage an institution for the care of growing children should be especially educated for such positions.

To stick to a uniform diet in young children is questionable indeed. Most all digestive disturbances result from the ingestion of an excessive amount of carbohydrate of one particular kind or at a particular time.

Adults are equally subject to the same condition.

Dr. E. W. Mooney and Mr. C. W. Melick also discussed the paper.

Supplementary Note on the Treatment of Paroxysmal Tachycardia

By Herbert M. Rich

Since writing a communication on this subject (*Jour. Am. Med. Assn.*, Jan. 13, 1912), I have had an interesting experience with another case, and my success in stopping the attack leads me to record it, and to state the rationale of the method.

Miss C. has had many attacks of paroxysmal tachycardia during the last three years, during which time she has been under my observation. The case was described in some detail in *The Journal* (June 4, 1910). The method successfully tried in my other case had been described to her but she had been unable to influence any one of her infrequent attacks and I had not seen her during an attack in the interval.

January 18 she same to my office at 4 p. m. complaining of a rapid heart. It had begun at 8 o'clock that morning. I counted the apical systoles with a stethoscope and found the rate 220 per minute. A colleague, Dr. F. C. Kidner, was called in and corroborated the count. (The rate has been the same in every attack in which I have seen this patient.) After trying the method described in my last communication several times unsuccessfully, I seated myself in front of the patient. Putting my right hand flat over her heart, and my left one on her back directly opposite, I directed her to take a deep breath, close her glottis and fix strongly the walls of the chest. I then squeezed the chest walls with some force, attempting to exert some pressure on the upper part of the heart. Instantly she expressed relief and grasping her wrist, I found the pulse to be 110, where fifteen seconds previously it had been 220. After resting a few minutes in my office she went home on a street car perfectly relieved.

It seems certain in this instance, that relief was obtained by direct pressure upon the heart itself. If the pathology of the condition is, as Keith found, a fibrosis of the primitive cardiac streak, then the attacks are probably due to an occlusion of one or more blood-vessels with a consequent derangement of the circulation in this highly important tissue.

It seems not improbable that a squeeze of the heart at this time might reopen the

occluded vessel or vessels and reestablish the normal circulation with a consequent relief of the dependent phenomena. If this explanation should prove to be the true one, the method would be worth trying in early cases of angina pectoris. The pathology is similar and it seems not unreasonable to believe that an occluded coronary artery might also be opened by squeezing the heart and the anginal attack cut short.

At the general meeting of the Society on Feb. 19, 1912, Dr. James Samson spoke upon the death of Sir Joseph Lister. Dr. Samson gave an interesting résumé of the condition of surgical practice in the pre- and post-antiseptic days. He called attention to the great service rendered to humanity by the influence of the life work of this great man. Dr. Samson spoke in his usual happy manner, embellishing his remarks with incidents in his own life which helped to bring out the points he wished to drive home. "A man's life is only of value when the world is made the better by that life having been lived."

Dr. W. E. Welz read a paper upon "Pre-eclamptic Toxemia," and Dr. W. H. Morley read a paper on "The Action of Pantopon in the Control of Pain in Childbirth."

Dr. C. H. Judd demonstrated Hirst's Metranicter, an instrument for the prolonged dilation of the uterus in sterility.

The following names having been favorably acted upon by the Board of Directors, were accepted for membership by the Society, the first two to active and the latter two to associate membership:

Hermann H. Runo, Detroit College of Medicine '07, Detroit.

John H. Sisler, Baltimore Medical College '98, Detroit.

Lynn H. Harrison, Barnes Medical College, St. Louis, '95, Butler, Ind.

John W. Brien, Toronto, '92, Essex, Ont.

The President, Dr. H. O. Walker, and the Secretary, Dr. Ernest K. Cullen, presided.

Seventy-eight members were present.

Pre-Eclamptic Toxemia

By Walter E. Welz

This last of the triology of the pregnancy toxemias seems to be a variety of the same intoxication as may be manifested early in pregnancy as hyperemesis gravidarum, or any time during pregnancy as acute yellow atrophy of the liver. The first and principal seat of pathological change is the liver, in which small areas of necrosis occur. This results in the impairment of liver function, especially in the metabolic reduction of nitrogenous foods. The urea formation is not completed, and imperfectly oxidized proteid substances escape from the liver to the general circulation and are partly excreted by the kidneys. The imperfect reduction of proteids is known as defective desamidization of proteids, because part of the albumin is not converted beyond the amido compounds.

These imperfectly metabolized proteids circulating through the system produce the symptoms which are present in pre-eclamptic toxemia. The principal objective symptoms are excessive intravascular tension (125-150 mm. in mild cases and above 150 in severe ones) and the excretion of abnormal excreta by the kidneys. Nitrogen partition, or quantitative analysis of nitrogen excreta in the urine shows the grade of the toxemia. As the condition advances in activity, the actual and relative amount of urea excreted is lessened. At the same time there is a slight increase in uric acid, xanthin and other purin excretory products. Ammonia slightly increases, but increases greatly at the time of seizures. The remainder of the nitrogen, the exact composition of which is not known, is called the undetermined nitrogen or N. rest. This increases greatly during the toxemia of late pregnancy.

There is usually a varying amount of serum albumin or globulin in the urine, but only an excessive percentage or an increasing one is of importance. The quantity of urine excreted may be considerably reduced. Blood, cylindroids and renal epithelium are occasionally present.

The subjective symptoms, headache, epigastric disturbances, anorexia, loss or impairment of vision, malaise, lassitude, somnolence, parasthesias, hallucinations are important indications of the condition. Objectively edema and retinitis may be present.

Treatment consists in prophylaxis, rest, diet, hygiene, hot baths and catharsis, and other elimination should be followed as the degree of toxemia indicates. Intravascular hypertension is controlled by the administration of thyroid extract, nitrites, veronal or veratrum viride.

The Use of Pantopon in Controlling the Pains of Labor

By W. H. Morley

Pantopon, a pure form of opium, was discovered by Sahli in 1909. It contains all the alkaloids of opium in the form of their HCl salts. This new preparation is freely soluble in water and admirably adapted for hypodermatic use. Pantopon has been used in all branches of medicine. Sahli used it as a substitute for opium and morphin whenever they were indicated. His results in perityphlitis, diarrhea, peristaltic unrest were very satisfactory. No complications, such as nausea and vomiting, constipation and excitation, followed its use. This new drug may be given per hypo, per os or per clysma. The dose per hypo is 1.0 c.c. of a 2 per cent. solution; this 2 per cent. solution is made up with 25 per cent. glycerine and 75 per cent water. Internally it may be given in form of pills, powder or tablets of 1.0 to 2.0 cg.

Pantopon has been used by the psychiatrists with good results. Its use per hypo is admirably adapted for obstreperous patients.

As a substitute for morphin in morphin-scopolamine anesthesia, pantopon proved satisfactory, as after effects were lacking, which are so common when opium or morphin is used.

These results led to a trial in controlling the pains of childbirth. Several obstetricians have tried the efficacy of pantopon, alone and in combination with scopolamine. The method of administration varies, but as a rule is as follows: At the beginning of labor, when the pains are strong and follow each other in equal periods, 1.0 c.c. of a 2 per cent. solution is injected. This may be repeated in two hours if necessary. A result should be felt in from 15 to 20 minutes. The patients do not feel the pains, or only slightly, but their force and frequency remain undisturbed. Pantopon does not affect the child like morphin, therefore asphyxia will be seldom seen.

The experiences of the writer were upon 34 cases at the Women's Hospital, Detroit. The patients were all primapara and the average duration of labor was:

1st stage—14¾ hours.

2nd stage—3½ hours.

3rd stage—25 minutes.

Average total length—18¾ hours.

The injection of 1.0 c.c. of a 2 per cent. solution was made at the beginning of 2nd stage, as other investigators, in the opinion of the writer, made their injections too early in the course of the labor.

No complications that could be traced to the pantopon existed.

The results were such that they demand a further investigation of this new opium preparation. In the 34 cases the following is tabulated:

No results—2 cases, or 6 per cent.

Doubtful results—3 cases, or 8 per cent.

Fair results—8 cases, or 24 per cent.

Good results—21 cases, or 62 per cent.

Further investigation will be made with pantopon in obstetrics, but it would seem as though pantopon tended to lessen the sensitiveness of uterine contractions without changing the force and duration of the pains.

At the Surgical Section meeting on Feb. 26, 1912, Dr. George E. Potter read a paper on "Perforating Gastric Ulcer with Report of Six Cases."

Dr. L. J. Hirschman reported a case of Hirschsprung's Disease and exhibited a specimen which he had recently won from the case in question, of megacolon. In addition, Dr. Hirschman demonstrated a number of *x*-ray plates from the same case.

Dr. F. N. Blanchard demonstrated a specimen won post-mortem of an enormously dilated sigmoid, together with a drawing of the same.

The chairman and secretary, Dr. Alexander W. Blain and Dr. G. H. Palmerlee, presided.

Fifty-five members were present.

Perforating Gastric Ulcer With Report of Six Cases

By G. E. Potter

For the purpose of study and discussion, the following clinical diagnosis seems appropriate:

First—Acute, sub-acute and chronic, and anatomically as to the location of the ulcer in the stomach.

Second—Character and significance of individual signs and symptoms.

Third—The diagnosis of the clinical syndrome.

Fourth—Certain points in differential diagnosis.

Fifth—Treatment.

Sixth—Report of cases.

Perforation of an ulcer of the stomach is always accompanied by serious and well

marked symptoms. The most marked clinical features of a perforated gastric ulcer at the time of the perforating and for one or two hours following the accident are a severe abdominal pain of an overwhelming nature, great shock, marked muscular rigidity over the entire abdomen, extreme tenderness to pressure over the site of the perforation.

For the success of treatment of perforated gastric ulcer an early diagnosis is essential The physician must not be misled in believing the trouble is transient, the apparent improvement which accompanies the reaction from the initial shock is very deceptive and the administration of morphin adds to his danger.

In acute perforation of the pyloric end of the stomach the extravasated material is directed to the right side by the transverse mesocolon and flows down over the omentum into the right side of the abdomen and iliac fossa. The peritoneum in this location becomes involved in an intense inflammatory process. At the end of the second or third hours as the immediate symptoms of perforation are passing, the clinical picture changes to that of a general peritonitis. Acute perforative appendicitis is often diagnosed for perforative gastric ulcer. It seems impossible in some cases to be sure of the diagnosis and safety lies in the recognition of the necessity for immediate laparotomy, the exact anatomical diagnosis being completed when the abdomen is opened.

Of the six cases reported, five were of the acute type, one sub-acute. Each case had a single perforated ulcer, in four the perforations were within three inches of the pyloric ring in the greater curvature and anterior surface. One perforation was close to the cardiac orifice and one on the greater curvature of the fundus. Five of the patients were males, the youngest was 18 years, the oldest 56 years. One was a female, 20 years. Five of the patients gave ulcer histories. One patient had no gastric symptoms until two days previous to perforation. Three cases were fairly diagnosed and operated within four hours and all recovered. Two cases were diagnosed appendicitis, one operated in fourteen hours following perforation, recovered, one case operated twenty-eight hours, died sixty hours following perforation, of general peritonitis. One case diagnosed intestinal obstruction, operation refused until forty-eight hours following perforation, died in four hours from general peritonitis. Three of the four cases recovered, developed pneumonia and the other cases acute dilatation of the stomach for two days. Three of the four patients who recovered have sour stomach at intervals. The perforation was closed in all cases by two rows of sutures. In one case the abdomen was closed without drainage and recovered. Five cases were drained with gauze in the upper wound and gauze and rubber-tubing through a second supra-pubic stab wound.

The paper was discussed by Drs. A. McLean, E. B. Smith, J. N. Bell, H. W. Longyear, F. G. Buesser and H. W. Yates.

At the general meeting of the Society on March 4, 1912, Prof. Alexander addressed the Society on the desirability of the preservation of our trees and sought the endorsement of the Society in an appeal he will make to the Municipal Council to appropriate suitable funds for that purpose.

The following resolution was introduced and favorably voted on:

"Resolved that the Wayne County Medical Society endorse the proposition to appropriate twenty-five thousand dollars ($25,000) for the preservation of the trees of the city, as we think it contributes to the health of the community."

Dr. C. M. Stafford presented a new instrument for the intravenous administration of salvarsan.

Dr. Charles W. Hitchcock presented a case of syringomyelia together with charts illustrating the nerve lesion.

The paper of the evening was by Dr. P. M. Hickey on "Roentgen Examination of the Gastro-Intestinal Tract." Dr. Hickey illustrated his paper with many beautiful Roentgenograms thrown upon a screen with a stereopticon.

Dayton L. Parker, Mich. Coll. of Med. and Surg., '01, Detroit, was admitted to active membership.

More than one hundred members were present.

Roentgen Examination of the Gastro-Intestinal Tract

By P. M. Hickey

The improvement in apparatus has permitted of making very rapid exposures of the abdominal organs. The introduction of the bismuth meal permits of the filling of these organs so that they cast an appreciable shadow on the photographic plate.

Owing to the present dangers of the fluoroscope, the plate is to be preferred, although it is hoped in the future that an improved technic will permit of the more extensive use of fluoroscopy for the study of motion of the viscera.

In the examination of the esophagus we are able to detect stricture, diverticula, encroachments on the esophagus by neoplasms and the condition which has recently assumed prominence, cardiospasm. The size, shape and position of the stomach can be accurately determined.

By making a series of very rapid exposures, the study of the peristaltic waves can be carried out and a diagnosis concerning malignancy of the pylorus can be often arrived at. Any neoplasm in the walls of the stomach or extensive fibrous tissue in the seat of an old ulcer will interfere with the regularity of these pyloric contractions.

The passage of the bismuth through the small intestines can be shown and the size, shape and position of the cecum with the colon can be graphically displayed.

In order to fill the colon properly, the bismuth meal may be supplemented by an enema containing two ounces of bismuth.

Angulations of the colon, constrictions and encroachments by neoplasms can often be demonstrated. The relation of the sigmoid to constipation is also another worthy point of study.

A number of lantern slides were shown illustrating foreign bodies in the esophagus, also a retained open safety pin in the stomach of a 12-months-old child. This safety pin was present in the stomach and intestines for a period of 6 weeks and was finally passed without any damage. Plates illustrating carcinoma of the esophagus, ptosis of the stomach, carcinoma of the pylorus and acute angulations and distentions of the colon were thrown upon the screen.

The paper was discussed by Drs. Hirschman, Chene, Stevens and Aaron.

Dr. Charles D. Aaron said: Dr. Hickey has shown that a diagnosis of foreign bodies in the esophagus can easily be made out by the *x*-ray and bismuth mixture. It is also the best method of locating the exact position of the displaced stomach and parts of the intestine. Where there is a prolapse of the stomach there must necessarily be a prolapse of the transverse colon. If the bismuth mixture can pass from the rectum to the cecum in ten or twelve minutes, I cannot see how such a case can be called one of obstipation. When I was at Rochester, Minnesota, Dr. William Mayo told me that they do not now operate on displaced stomach or dislocations of any parts of the intestine. When I asked him what they did for dropped kidney, he said they refer these cases back to the internist to whom they belong.

ROLLAND PARMETER, Reporter.

DETROIT OTOLARYNGOLOGICAL SOCIETY

The Detroit Otolaryngological Society met in Ann Arbor, Tuesday, Feb. 20, 1912, at 2 o'clock. Clinical demonstrations were given by Dr. R. Bishop Canfield in the Eye and Ear Hospital. Among the more important cases that were demonstrated, I might mention the following:

1. A Case of Suppurative Labyrinthitis, in which during the Neumann operation the saccus lymphaticus was found occupying a very deep fossa in the posterior surface of the petrous portion of the temporal bone. In separating the dura from this, it was discovered either that the dura had been torn in the depths of this fossa or that the ductus lymphaticus terminated in the subdural space, which could not be definitely stated. The opening through the dura was about one-half inch in diameter. Suturing the edges of this perforation had not secured satisfactory union. Therefore the patient had lost a great deal of cerebrospinal fluid over a period of several days, result of which was that she developed all the symptoms of a leptomeningitis (agonizing headache, opisthotonos, Babinski, Kernig's, edema of the retina, high fever without leukocytosis). In order to close this opening a piece of dura of a dog was transplanted with good result. Two months after the operation the patient was well.

2. A Case of Typhoid Fever with chronic suppurative otitis media, fever, chills and all the symptoms of a sinus thrombosis except leukocytosis. The patient had been sent to the hospital for an operation upon the sigmoid sinus. The positive Widal and leukopenia substantiated the diagnosis of typhoid fever.

3. A Case of Double Frontal Brain Abscess, due to injury of the brain with a knitting needle, which had been operated upon a year previously when patient was unconscious. The point of interest in this case was the great depth and size of the abscess, which is one of the very few such cases on record.

4. Radical operation for the removal of a squamous cell carcinoma involving the left frontal, ethmoid, antrum, sphenoid, orbit, entire nose, part of the forehead and cheek and upper lip. Notwithstanding the very extensive involvement the patient had done well and was about to be fitted with an artificial feature.

5. Carcinoma of the right side of nose.

The end result of several complete and radical mastoid operations were also demonstrated. Three patients suffering from chronic nasal accessory sinus disease due to pathological condition of the nose and throat were also shown. Microscopical specimens were on exhibition in the laboratory together with several interesting brain abscesses and neoplasms. The methods of functional testing of the ear were gone through. Then followed a lantern slide demonstration of tuberculosis and syphilis of the upper respiratory tract; cholesteatoma of the brain, etc.

Dinner was then taken at the Phi Rho Sigma fraternity house after which Dr. A. M. Barrett addressed the society on "Cortical Centers of Hearing." Histories, diagrams, pictures and pathological specimens were used. Dr. Barrett gave an extensive exposition which was thoroughly appreciated. The discussion was opened by Dr. C. D. Camp and the address was further discussed by Dr. Hitchcock as guest who mentioned three patients at present under his observation. The subject was further discussed by Drs. Canfield and Amberg.

Dr. Mercer presented a new lamp for direct laryngoscopy. The main feature of this lamp is that the very strong source of illumination is so arranged as not to obstruct the lumen of the instrument.

In the absence of the president, Dr. Don M. Campbell presided.

It was moved by Dr. Livingstone that the thanks of the society be extended to Drs. Canfield, Barrett and Camp.

Emil Amberg, Secretary.

NEWS

Dr. Geo. M. Kline of Ann Arbor has accepted the position of superintendent of Danvers (Massachusetts) State Hospital.

Dr. A. M. Giddings, of Augusta, has gone to Youngstown, Ohio, where he will take an internship in the Youngstown Hospital.

Dr. William A. Spitzley, 270 Woodward Avenue, Detroit, announces that he will hereafter limit his practice to General Surgery and Consultations.

Dr. J. H. O'Dell, formerly of Three Rivers, has finished a postgraduate course in Detroit, and is now located in Kalamazoo, taking offices in the Academy of Music building.

Dr. Hugo A. Freund announces that he has resumed offices at 513 Washington Arcade, Detroit, and that in the future he will limit his work to office and consulting practice in internal medicine.

Dr. S. N. Insley of Grayling slipped under the cars at Frederick, February 20, and lost both legs, one arm was broken and his head injured. He was taken to Mercy Hospital at Grayling.

We are informed that the Eaton County Medical Society has been incorporated and will make a bid for taking care of the indigent poor of the County upon a plan similar to that in Tuscola County.

As the result of efforts of the Detroit Society for the Prevention of Tuberculosis, the Detroit Hospital School for Tuberculous Children has been opened in direct connection with the Detroit Hospital so that children can be treated and taught at the same time.

The City Council of Lansing on February 19 voted $2,000 to be applied in the purchase of a site and the erection of a sanatorium for the care of persons afflicted with tuberculosis, subject to the vote of the people of Ingham County to raise $4,000 by general taxation, for the same purpose.

The "Twentieth Century Limited" was wrecked March 13. Several of the large steel cars tipped over into the Hudson River. Dr. F. C. Warnshuis, of Grand Rapids, was on board, and considerably cut with glass, but was able to help in rendering first aid to the injured passengers.

The Board of Regents of the University of Michigan at their meeting January 26 voted to raze the old Medical Building at Ann Arbor.

This is the third time the matter has been voted on by the board but each time the alumni have protested so strongly that the matter has been reconsidered. The work of demolition will begin in a short time.

The Kalamazoo Board of Health has again shown its progressiveness by the publication of a *Bulletin* for the advancement of health matters of the city in general. The first edition is a four-page sheet, well edited and very neatly printed, and a wide distribution has been planned for it among all classes of citizens. One unique feature is a tabulation or "grading" of the dairies which supply milk to the Kalamazoo market. Grades are given on a basis of 100 for perfect conditions. The first series of grading ranges from 58 per cent. to 78 per cent. It is believed that this information, in the hands of consumers, will cause a raise of standards on the part of dairymen more effectively than legislative punishment.

The annual conference of the American Medical Association on Medical Education, and Public Health and Legislation, held at the Congress Hotel, Chicago, Feb. 26 and 27, was a success in every way. Among those attending from Michigan were V. C. Vaughan of Ann Arbor, Member of the Council on Medical Education; A. M. Hume, of Owosso, who read a paper at the conference on "Health and Public Instruction"; Reuben Peterson, of Ann Arbor, who read a paper at the conference on "Medical Education"; Guy L. Keifer, Health Officer of Detroit; Robt. L. Dixon, secretary of the State Board of Health; B. D. Harison, secretary of the State Board of Registration in Medicine and Wilfrid Haughey, secretary of the State Medical Society.

At a meeting of the editors of the official journals of the State Medical Societies of Illinois, Indiana, Ohio, Wisconsin, Missouri, Iowa, Kentucky, Kansas and Michigan, held in Chicago February 26, the work of the Council on Pharmacy and Chemistry was strongly endorsed and plans made by the journals of these states, and any others wishing to join, to have an advertising representative in Chicago to secure other than local advertisements. One of the requirements of joining this conference is that the advertising pages must follow the rules of the Council on Pharmacy and Chemistry. At this meeting one editor announced that as soon as he returned home his journal would cancel all ads not approved by the Council on Pharmacy and Chemistry. Only two other states represented at this meeting do not now maintain this standard.

There will be held in Chicago on April 17, 18 and 19, a meeting under the auspices of the West Side Branch of the Chicago Medical Society and the Chicago Medical Society for the purpose of discussing mental diseases in their various phases. Alienists and neurologists from the various states are invited to participate in this meeting, the object of which is for scientific purposes. The program, in part, is as follows:

Dr. Henry A. Gotton, Trenton, N. J., "Heredity, with Charts of from Two to Four Hundred Cases that His Asylum has Investigated." Dr. T. B. Throckmorton, Cherokee, Iowa, "Clinical Significance of Reflexes." Dr. H. A. Tomlinson, St. Peter, Minn., "Mental Depression." Dr. W. F. Lorenz, Mendota, Wis., "Chemical and Cytologic Findings of the Blood and Spinal Fluids." Dr. K. S. West, Cleveland, O., "Clinical Reports of One Hundred Cases of Paresis and Serologic Findings." Dr. Fred W. Terflinger, Logansport, Ind., subject not received. Dr. Sidney I. Schwab, St. Louis, Mo., "Abnormal States in Otherwise Normal Individuals." Dr. H. M. Cary, Pennhurst, Pa., "Feeble-Minded and Epileptic." Dr. H. P. Sights, Hopkinsville, Ky., "Infectious Psychoses." Dr. J. L. Green, Little Rock, Ark., title of paper not received. Dr. W. L. Treadway, Jacksonville, Ill., "The Presenile Psychoses." Dr. C. H. Anderson, Menard, Ill., on "Criminal Insanity." Dr. Wm. Healy, Winnetka, Ill., "Some Causative Factors of Criminality Found in Mental and Nervous Conditions."

Doctors of the State of Illinois who have promised papers are, Singer, Norbury, Read, Pollock, and Clara Town.

COMMUNICATIONS

March 7, 1912.

Dr. Wilfrid Haughey, Editor, Battle Creek, Mich.

Dear Dr. Haughey: Our advertisement in the March number of the Journal looks good to me and I should like to try another full page in the April issue.

Brevity may be the spice of life and often most essential in advertising but I should like to try a few ads which will tell the reader something of value if he is interested in the subject.

After running these two ads, I intend to sit back and see what the returns are. If enough to warrant the expenditure we might then use a page every month or at least six times a year instead of four.

If you can let us have a full page in the April issue at our regular rate please insert the enclosed copy.

Trusting results will necessitate more advertising by us with you, I am,

Very truly yours,

(Signed)————

———

Lansing, Dec. 29, 1911.

Dr. V. A. Chapman, Secretary Muskegon-Oceana County Medical Society, Muskegon, Mich.

Dear Doctor: I have your communication of December 28 regarding an arrangement for having the Wassermann test made in our laboratory for physicians of the state. I think you are exactly correct upon this point. In fact I have already made it an item of business for the next board meeting to consider this same proposition. I think the whole thing will depend on the amount of demand for this work. You understand, of course, that in order to do satisfactory work of this kind there must be enough of it in order to warrant keeping up the materials and also in order to keep up the technic of the laboratory man.

I do not think very much of the Wassermann test as it is done by the majority of laboratory men. In the hands of an expert technician, it is an exceptionally satisfactory test, in the hands of a bungler it is very unsatisfactory.

Our assistant bacteriologist has had quite a bit of experience with the Wassermann test and I should be very glad to have the work established in our laboratory, under his immediate supervision.

I will report to you promptly after the next board meeting, which will be held Jan. 12, 1912.

Very truly yours,

R. L. Dixon,

Secretary State Board of Health.

Lansing, Jan. 17, 1912.

Dr. V. A. Chapman, Muskegon, Mich.

Dear Doctor: At the meeting of the State Board of Health, last Friday, the advisability of making the Wassermann test in our laboratory free for the physicians of the state, was not favorably considered.

It was concluded that the present appropriation on which the laboratory is working is wholly inadequate for allowing extension of the work so as to include the Wassermann test.

Very truly yours,

R. L. Dixon,

Secretary State Board of Health.

BOOK NOTICES

Practical Electrotherapeutics and X-Ray Therapy. By J. M. Martin, M.D. Containing 219 illustrations. St. Louis: C. V. Mosby Company, 1912.

Experiments, Description of Currents, Mode of Production of High-Frequency Currents, Controlling Devices, Dynamos, Motors and X-Ray apparatus are interestingly explained in the early chapters, followed by methods of applying currents for diagnostic as well as treatment purposes. Electrolysis, Cataphoresis and diseases benefited by the application of these principles are given ample space as are also diseases of the nervous system. High-frequency currents, types of apparatus, methods of application and physiologic effects are given a chapter.

Phototherapy, Light Baths, the application of the *x*-ray to various affections of the soft tissues, bones and to dental surgery are extensively treated. An interesting and well written chapter on *x*-ray burns, how caused and their treatment, together with one on the medico-legal aspect of the *x*-ray are introduced at the close, and are in themselves of more value than the price of the book which throughout is well conceived, logical and up to date.

Diseases of the Skin and the Eruptive Fevers. By Jay Frank Schamberg, A.B., M.D. Fully illustrated. Second edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $3 net.

In this second edition the progress and advances added in recent years to our knowledge of skin disease are incorporated. The subject of Pellagra that has attracted so much attention of the American Physician has been elab-

orated and is well handled in this work. New chapters treating on Sporotrichosis, Grain Itch, Vaccine Therapy, Refrigeration, the use of carbon dioxid, the Wassermann reaction, etc., have been added. The illustrations are particularly fine. The chapter on Small-Pox is an elaborate dissertation on this subject giving much attention to the differential diagnosis from Chicken-Pox, Measles, Scarlatina, Syphilis, etc., Treatment of the various epithelial diseases by Actinotherapy, Roentgen Ray, Radium, Liquid Air, are fully detailed. The library form of the work enables it to fit nicely on the shelf thus having it ever ready at hand. It is a valuable work for which we bespeak a good sale.

A Manual of Clinical Diagnosis by Means of Laboratory Methods. For Students, Hospital Physicians and Practitioners. By Charles E. Simon, M.D., Professor of Clinical Pathology and Experimental Medicine in the College of Physicians and Surgeons, Baltimore. Seventh edition, enlarged and thoroughly revised. Octavo, 780 pages, with 168 engravings and 25 plates. Cloth, $5 net. Lea & Febiger, Philadelphia and New York, 1911.

An old friend in new clothes. Prof. Simon has now eliminated the primary portions of his former works, presuming the practitioner to be now sufficiently well versed in the preliminaries and goes at once to the heart of things. The book is larger than previous editions but not unwieldy.

The author has not only reviewed and revised previous editions but has added much of importance and has gained much space in the elimination of bibliography. He has particularly dilated upon the technic of the Wassermann reaction, and given a good working description of that test.

Further, he has given us two volumes in one, in the first outlining technic and in the second applying for their diagnostic values the laboratory pictures of the many specific diseases.

On the whole the work is to be commended to the general practitioner as suited to his desires to keep abreast of medical diagnostic progress.

Infections of the Hand. A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand and Forearm. By Allen B. Kanavel, M.D., Assistant Professor of Surgery, Northwestern University Medical School, Chicago. Octavo, 447 pages, with 133 illustrations. Cloth, $3.75 net. Lea & Febiger, Philadelphia and New York, 1912.

Practically the most useful organ to man is the hand; yet how little is its mechanism understood! How much do many who lance felons, paronychia or palmar abscess know of the routes by which the pus travels to and though the onychular, fatty and distal phalangeal spaces, tendon sheaths, bursæ and fascial spaces. How pitiable is this. As a correct knowledge of these various routes would save not only untold suffering but an enormous amount of functional control that is now lost. All this is taught in this work and by one who has made the hand a life study, who has studied it with a view single to learn how infection spreads through it, and he has accomplished his purpose, too.

The book will reach many more men because of its treating only a single subject. It should not be necessary to buy much you do not want in order to get the little you do. The libraries (medical) of the future will be composed of monographs. This work will be consulted when composite treatises written by a multiplicity of authors are no longer salable.

Genito-Urinary Diseases and Syphilis. A Compend, Including the Surgery and Treatment. By Charles S. Hirsch. Second Edition. Philadelphia: P. Blakiston's Son & Co., 1912. Net $1.25.

Quiz compends have probably come to stay; there must be a field for them. The present book is well illustrated and covers the various subjects especially well for a book so small and unpretentious. It will without doubt find its niche and fit into it.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles by Leading Members of the Medical Profession Throughout the World. Edited by H. W. Cattell. Vol. IV. Twenty-First Series, 1911. Philadelphia and London: J. B. Lippincott Co. Net $2.00.

The articles making up this volume are of the same standard of excellence which has characterized this series for so many years. An excellent article is presented by Dr. J. A. MacMillan of Detroit on local anesthesia in Inguinal Herniotomy and one by Dr. V. C. Vaughan, Jr., of Detroit, on Sensitization and Its Relation to Practical Medicine. This article brings the subject up to date and offers an explanation for sudden death following antitoxin injection.

The chapter on The Successful Practice of Medicine by Dr. Thomas F. Reilly is especially valuable. These chapters by Dr. Reilly are taken from his course of lectures in Fordham University and show comprehensive preparation. This chapter corrects a mistake to

which we called attention in reviewing the last volume, in the formula for lay baptism.

Blair's Pocket Therapeutics. A Practitioner's Handbook of Medical Treatment. By Thomas Blair. Philadelphia: The Medical Council Co., 1911. Price, $2.00.

This little volume in its flexible cover is convenient for carrying in the pocket and contains a world of suggestions in the treatment of most any condition imaginable from hydrophobia to victims of the "sweat shop," and drivers of fast vehicles. Dr. Blair is certainly not a pessimist in regard to medication, neither does he suggest "shot-gun" prescriptions and the like.

Frequently the physician needs an instant reference where the principle of treatment may be found with the least delay. An ingenious method of supplying this want is to print the name of the drug in CAPITAL LETTERS for large doses, in ordinary type for medium doses, and in *italics* for small doses. A table of large, medium and small doses is given in the book.

Practical Gynecology. A Comprehensive Text-Book for Students and Physicians. By E. E. Montgomery, M.D., LL.D. Fourth edition, revised and rearranged. Philadelphia: P. Blakiston's Son & Co., 1912. $6 net.

Any one who has a copy of a previous edition of Montgomery's Gynecology is familiar with the valuable work of this author. Those who possess the 1900 work will be pleased to note the advances made in the 1912 edition, especially in pathology and technic.

The principles of treatment remain the same, but a better knowledge of causation and pathology together with our advanced ideas of asepsis and technic have made the application of these principles more rational, scientific and successful. The progress of the intervening years since the last edition has been added to both illustrations and text. All admirers of Montgomery will welcome this volume and derive much benefit from it.

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1912, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies."

Lactic Bacillary Tablets — Fairchild — are made from a practically pure culture of the *Bacillus bulgaricus*. They are designed for internal administration in the treatment of intestinal fermentative diseases by the Bulgarian bacilli, with the design of accomplishing the acclimation of the bacilli in the alimentary tract, so as to secure their characteristic action against putrefactive fermentation by the production of lactic acid. One or two tablets before or after meals. The diet should not contain an excess of proteid, but should afford sufficient sugar. Fairchild Bros. & Foster, New York (*Jour A. M. A.*, Jan. 20, 1912, p. 191).

Salvarsan (Arsenphenol-amin hydrochloride, arseno-benzol, "606") is 3-diamino-4-dihydroxy-1-arseno-benzene hydrochloride, $HCl.NH_2.OH.C_6H_3As:As.C_6H_3.OH.NH_2.HCl + 2H_2O$, corresponding to 31.57 per cent. arsenic (As). It is marketed in hermetically sealed tubes each containing 0.6 Gm. (10 grains) Salvarsan. Salvarsan is a yellow, crystalline, hygroscopic powder, very unstable in air. It is readily soluble in water, yielding a solution with an acid reaction. The addition of sodium hydroxid solution to an aqueous solution of salvarsan precipitates the free base ($NH_2.OH.C_6H_3As:As.C_6H_3.OH.NH_2$) which redissolves when more alkali is added.

It is given to adults in doses of 0.3 to 0.6 gm. (5 to 10 grains); for children the dose is from 0.2 to 0.3 gm. (3 to 5 grains). In infants doses of from 0.02 to 0.1 gm. (⅓ to 1½ grains) may be used. For a subcutaneous and intramuscular injection a suspension in a neutral fluid is commonly employed. This suspension is prepared as follows: The weighed amount of salvarsan is triturated with 0.35 c.c. normal sodium hydroxid solution to each 0.1 gm. salvarsan. To this liquid a solution of 0.1 c.c. of normal sodium hydroxid solution for each 0.1 gm. of salvarsan in 8 c.c. of sterile water is added drop by drop until the liquid is exactly neutral to litmus paper. If the neutral point is passed the excess of alkali must be carefully neutralized by a weak solution of hydrochloric or acetic acid. Subcutaneously, salvarsan may also be administered in form of oily suspensions.

These suspensions should be injected at once, using a syringe with a very thick platinum needle.

For intravenous injection a clear alkaline solution is prepared as follows: The weighed quantity of salvarsan is triturated with 0.7

c.c. normal sodium hydroxid solution for each 0.1 gm. of salvarsan and then more of the alkaline solution is cautiously added until complete solution occurs.

This solution is diluted with from 100 to 250 c.c. (3 to 8 ounces) of sterile physiologic salt solution (0.9 per cent.) and filtered through a sterile filter.

The contents of a tube should be used at once after opening and under no circumstances should the contents of a tube damaged in transportation or any remnants of the powder from previously opened tubes be used. Victor Koechl & Co. (*Jour. A. M. A.*, Jan. 20, 1912, p. 191).

Neisser Bacterin Mixed, a gonococcus vaccine, each c.c. being said to contain approximately 100 million each of killed staphylococcus (aureus, albus and citreus) and 50 million each of streptococci, *B. coli, B. pseudodiphtheriæ* and gonococci. It is marketed in packages of four 1 c.c. ampules. Also marketed in vials of 20 c.c. and in 4 syringes, Syringe A being of the composition mentioned above and constituting the initial dose, while Syringes B, C and D contain, respectively, 2, 4 and 8 times the amount of bacteria contained in Syringe A. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Pneumo-Bacterin Mixed, a pneumococcus vaccine, each c.c. being said to contain 50 million killed pneumococci, 25 million killed streptococci and 50 million killed staphylococci. Also marketed in vials of 20 c.c. and in packages of 4 syringes, Syringe A being of the composition mentioned above and constituting the initial dose, while Syringes B, C and D contain, respectively, 2, 4 and 8 times the amount of bacteria contained in Syringe A. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Scarlatina-Bacterin (Scarlet Fever Vaccine), a streptococcus vaccine, consisting of a suspension of killed streptococci obtained from scarlet fever cases. Marketed in packages of 4 syringes, Syringe A containing 50 million killed streptococci, while Syringes B, C and D contain, respectively, 2, 4 and 8 times the amounts of bacteria contained in Syringe A. It is also marketed for immunizing purposes in packages containing 3 doses ready for use and sufficient to immunize 1 person. Also in 20 c.c. vials, sufficient for immunizing 5 persons. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Typho-Bacterin Immunizing, a typhoid vaccine, marketed in packages containing 3 syringes; the contents to be injected subcutaneously at intervals of ten days. Hospital-size packages contain 30 ampules, in sets of three. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Staphylo-Bacterin Mixed, a staphylococcus vaccine, composed of a suspension, each c.c. containing 25 million killed streptococci, 100 million killed staphylococci and 50 million killed *B. coli.* It is marketed in packages of four 1 c.c. ampules. Also in 20 c.c. vials and in packages of 4 syringes, Syringe A being of the composition given above, while Syringe B, C and D contain, respectively, 2, 4 and 8 times the amount of bacteria contained in Syringe A. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Von Pirquet Test for Tuberculosis consists of old tuberculin in capillary tubes. Each tube contains old tuberculin sufficient for one test. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Rabies Vaccine is an antirabic vaccine prepared according to the method of Pasteur. It is a complete treatment, consisting of 25 doses, to be administered during 21 days. Each day's injection is shipped in a Caloris vacuum bottle. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Bass Test for Typhoid Fever is a modification of the method of Widal consisting of a suspension or emulsion of killed typhoid bacilli, a glass slide on which to mix the emulsion with suspected blood, a slide with dried smear of infected blood, a needle for pricking ear or finger to obtain suspected blood from the patient and a pipette for dropping typhoid emulsion and water on slide, previous to mixing with suspected blood. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Mulford's Widal Test Outfit is a means of applying Borden's modification of Widal's Test. In this test the serum of the blood is mixed with salt solution and then with a suspension of killed typhoid bacilli, so as to bring the dilution up to 1 to 50. The positive reaction is determined by noting that the clumps of bacteria sink to the bottom of the test tube and leave a limpid, clear fluid above a small,

white, floculent mass of agglutinated bacilli. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Gynoval is isoborneol isovalerate, $CH_3.CH(CH_3).CH_2.COO.C_{10}H_{17}$. It is closely related to bornyval (see N.N.R., 1912, p. 49). It is difficultly soluble in water. The action of gynoval is said to be that of a mild nervine and antispasmodic, resembling that of valerian, with the advantages of a much more agreeable odor and of being better tolerated, especially not giving rise to unpleasant eructations. Like other valerian preparations, it is said to be indicated in nervous headaches, nervous insomnia, nervous disorders of the climacteric, hysteria, cardiac and gastric neuroses and neurasthenia. 0.25 to 0.50 gm. (4 to 8 grains) two to four times daily, best given after meals. Gynoval is marketed in the form of gynoval pearls, containing 0.25 gm. (4 grains) gynoval. Farbenfabriken of Elberfeld Co., New York (*Jour. A. M. A.*, Feb. 10, 1912, p. 411).

Exsiccated Sodium Succinate (Sodii Succinas Exsiccatus) is the disodium salt of succinic acid containing not less than 95 per cent. anhydrous sodium succinate, $NaOOC.CH_2CH_3.COONa$. It is a white granular odorless powder, possessing a characteristic saline taste. It is readily soluble in water, but insoluble in alcohol, ether and chloroform. It is a saline cathartic claimed by some to have an antiseptic action in the biliary tract and to be useful in combating infections of the gall-bladder and biliary passages. Dose, 0.3 gm. (5 grains) three or four times a day. Manufactured by Fairchild Bros. & Foster, New York and by Merck & Co., New York (*Jour. A. M. A.*, Feb. 24, 1912, p. 554).

The following is a list of the articles whose acceptance by the Council on Pharmacy and Chemistry has been rescinded during the past year, and which are therefore not included in New and Nonofficial Remedies, 1912:

E. G. Binz Co.—Eucaloids, Euca-Mul.

Henry O. Blair Co.—Iodone, Iodone Oil, Iodone Ointment, Iodone Surgical Dressing and Dusting Powder.

Burroughs Wellcome & Co.—Tabloid Ergotinine Citrate & Strychnine Sulphate, Tabloid Hypophosphites Comp.

G. W. Carnrick Co.—Antithermoline.

Cloftlin Chemical Co.—Emulsion Cloftlin.

Eusoma Pharmacal Co.—Mercuran.

Victor Koechl & Co.—Hypnal, Tussol.

Merck & Co.—Cupro-Hemol, Ichthermol, Lithium Ichthyol.

Wm. S. Merrell Chem. Co.—Akaralgia, Erpiol-Dr. Schrader.

H. K. Mulford Co.—Adrin, Adrin Compound Vaginoids, Adrin Inhalant Comp., Adrin Troches, Adrin Ointment, Adrin Solution 1:500, Adrin Suppositories, Adrin Tablets 1/65 gr., Adrin Tablets Hypodermic 1/100 gr., Adrin Tablets Hypodermic 1/200 gr., Adrin and Cocaine Tablets, Adrin and Sparteine Tablets, Hypodermic, Blandine Comp., Casca Laxative, Compound Capsules of Glycerophosphates, Granular Effervescent Carlsbad Salt (Artificial) with Phenolphthalein, Guaiacol Carbonate Comp., Tuberculin Ophthalmic Test Solution, Tuberculin Ophthalmic Test Tablets.

Reinschild Chemical Co.—Regulin.

Schering & Glatz—Exodin, Tonols, Duotonol, Quartonol, Sextonol.

Schieffelin & Co.—Colalin Laxative, Elixir Eupnein, Hemoquinine, Heromal, Heroterpine, Laminoids Ferruginous (Nascent), Neuronidia, Uriform.

Sharp & Dohme—Compressed Tablets Anesthesin 2½ grs., Solution Atoxyl 10 per cent. (sterilized), Ampules Solution Atoxyl 10 per cent. (sterilized), Ampules Solution Atoxyl 10 per cent. with Novocain 1 per cent. (sterilized), Compressed Tablets Atoxyl and Iron, Compressed Tablets Atoxyl and Quinine Comp., Compressed Tablets Benzosol 2½ grs., Compressed Tablets Benzosol and Codeine, Compressed Tablets Blaud with Atoxyl, Compressed Tablets Pyramidon 1½ grs., Compressed Lozenges Orthoform 1 gr., Compound Emulsion Petroleum, Solution Atoxyl 10 per cent. with Novocain 1 per cent. (sterilized), Soluble Hypodermic Tablets Atoxyl ⅓ gr., Soluble Hypodermic Tablets Novocaine ⅓ gr., Soluble Tablets Novocaine 1 1/7 grs., Tonic Hypophosphites.

F. H. Strong Co.—Chologestin.

H. K. Wampole Co.—Bismuth Hydrate Comp.

Non-proprietary preparations: Barium chloride, Cephaeline, Coniine Hydrobromide, Digitonin, Emetine Hydrochloride, Gelsemine Hydrochloride, Hemoglobin, Keratin, Quassin, Red Gum, Sanguinarine Nitrate, Sodium Cinnamate, Thorium Nitrate.

WHAT'S THE MATTER WITH MICHIGAN?

[Editorial from *The Journal A. M. A.*, March 23, 1912.]

Last October, under the caption "What's the Matter with Kansas?" *The Journal* expressed surprise that Kansas should tolerate the mail-order medical faker, "Professor" Samuels. Samuels, as will be remembered, sells a weak solution of sugar and salt in water, at from $5 to $25 an ounce, for the cure of cancer, consumption, and any other disease which the gullible may have or may think they have. Surprise was expressed because Kansas is a progressive and wide-awake state which has done splendid work in protecting its citizens against the food adulterator and the "patent-medicine" faker. But for some reason it tolerated Samuels. That tolerance has evidently ceased, for Samuels is now notifying his prospective dupes that after March 27, 1912, he is going to move to Detroit, Michigan. Of course he does not admit that the reason is that Kansas has grown too hot for him; not at all. He is changing his address because the "phenomenal growth" of his business necessitates his "locating nearer the center of the United States." If we had been told that this faker was going to move into another state and presumably into one in which his mail-order fakery would be subject to less inspection on the part of officials than in any other, we should have guessed Michigan as the state to be selected. We believe we are not overstating when we say that the state of Michigan has as many mail-order medical fakes of a vicious and fraudulent character as can be found in any other three states in the Union, irrespective of population.

We have long wondered what peculiar influence protected swindlers in this state. That wonder was increased by our experience with the Van Bysterveld fraud at Grand Rapids. A member of the *The Journal* staff, it will be recalled, worked up a clear case against this concern, the matter appearing in *The Journal*, Jan. 7, 1911. Briefly, the Van Bysterfeld Company advertised to diagnose any disease from the alleged examination of such 2-dram samples of urine as might be sent in. Five samples were sent in from the Association's laboratory, three of them consisting of hydrant water, anilin dye and ammonia and two of them being merely hydrant water and glucose. They were mailed from five different addresses and five widely differing "diagnoses" came from the Van Bysterveld concern in reply. It was proved without a shadow of a doubt that the company was operating a fraudulent business.

A post-office inspector, who, by the way, not only lived in the same town as Van Bysterveld, but was a neighbor of this man, came to Chicago and asked that all of the evidence in the hands of *The Journal* might be turned over to the government for the purpose of making a case against this mail-order fraud. This was done more than a year ago. All of the original letters from Van Bysterveld, with the envelopes in which these letters came, carbon copies of all of the letters written to Van Bysterveld and all other matter pertaining in any way to the case we turned over to the government. No case has been brought against these swindlers and for some reason the post-office inspector to whom the matter was given has been transferred from Grand Rapids to some other location. The reason we do not know.

The list of mail-order medical concerns operating in Michigan would probably make a good-sized directory. In *The Journal's* files there is a very incomplete collection of these delectable institutions, a collection which is more instructive than edifying. To name a few of these: We find in Battle Creek, "Peebles' Institute," which sells a fake epilepsy cure; W. T. Bobo, a goiter quack; T. Gorham, a catarrh cure faker and the F. J. Kellogg obesity cure humbug. Among the dozens in Detroit, the Interstate Remedy Company advertises to cure "weak men," but doesn't; the Protone Company will make you fat and the Rengo Company will make you thin, both concerns being run by the same individuals; and the Marmola Company sells a laxative pill as a sure "obesity cure." In Jackson we have the two consumption cures, "Lung-Germine" and "J. Lawrence Hill," both exposed at length in *The Journal;* the "Magic Foot Drafts," a fraudulent rheumatism cure; "Van Vleck Pile Cure," and a dozen others equally fakish. "Tuberculozyne," a consumption cure sold by the horse doctor, Yonkerman, may be ordered by mail from Kalamazoo, while letters to Marshall may bring Gauss' combined treatment for catarrh, Brennan's cure for pimples or Brooks' cure for rupture. These are but a few from *The Journal's* admittedly incomplete list. Every one of these concerns advertises nationally, many of them advertise internationally, and all of them obtain their dupes through the instrumentality of the United States mail.

The post-office department has done splendid work in many instances in putting medical swindlers out of business. Why Michigan seems to be exempt from federal activity in this line is a mystery. It would be interesting to know what sinister influence makes that state such a safe harbor for mail-order medical fakers.

[What's the matter with Michigan?—Ed.]

CONSTITUTION AND BY-LAWS
OF THE MICHIGAN STATE MEDICAL ASSOCIATION

ARTICLES OF ASSOCIATION OF THE MICHIGAN STATE MEDICAL SOCIETY

We. the undersigned, being of full age, and desiring to become incorporated under the provisions of Act Number 171, of the Public Acts of Michigan for 1903, entitled "An Act for the incorporation of associations not for pecuniary profit," do hereby make, execute and adopt the following articles of association, to-wit:

ARTICLE I.

The name or title by which said corporation is to be known in law, is the *Michigan State Medical Society.*

ARTICLE II.

The purpose or purposes for which it is formed, are as follows: To federate and to bring into the compact organization the entire medical profession of the State of Michigan and to unite with similar societies in other states to form the American Medical Association; with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease and in prolonging and adding comfort to life.

ARTICLE III.

The principal office or place of business shall be at Battle Creek, County of Calhoun, Michigan.

ARTICLE IV.

The term of existence of this proposed corporation is thirty years.

ARTICLE V.

The number of trustees or directors shall be nineteen.

ARTICLE VI.

The names of the trustees or directors selected for the first year of its existence are as follows:

J. Henry Carstens, Virgil L. Tupper, Emil H. Webster, James F. Breakey, Rosingrave M. Eccles, Wilfrid Haughey, George F. Inch, Andrew P. Biddle, Albert E. Bulson. William H. Haughey, Alvin H. Rockwell, Ralph H. Spencer, Arthur M. Hume, William J. Kay, Arthur L. Seeley, Bartlett H. McMullen, Charles H. Baker, William T. Dodge, Charles J. Ennis.

ARTICLE VII.

The qualifications required of officers and members are as follows: All members in good standing of the Component County Medical Societies shall be considered *ipso facto* members of this Society; physicians in good standing may also be elected to this Society in such manner as may be provided by its constitution and by-laws.

In Witness Whereof, We, the parties hereby associating, have hereunto subscribed our names this day of June, A.D., Nineteen hundred and ten.

J. Henry Carstens,
Virgil L. Tupper,
Emil H. Webster,
James F. Breakey,
Rosingrave M. Eccles,
Wilfrid Haughey,
George F. Inch,
Andrew P. Biddle,
Albert E. Bulson,
William H. Haughey,
Alvin H. Rockwell,
Ralph H. Spencer,
Arthur M. Hume,
William J. Kay,
Arthur L. Seeley,
Bartlett H. McMullen,
Charles H. Baker,
William T. Dodge,
Charles J. Ennis.

(Filed and recorded in the office of the Secretary of State September 17, 1910.)

CONSTITUTION

ARTICLE I—NAME OF THE SOCIETY

The name and title of this organization shall be the Michigan State Medical Society.

ARTICLE II—PURPOSES OF THE SOCIETY

The purpose of this Society shall be to federate and to bring into one compact organization the entire medical profession of the State of Michigan and to unite with similar Societies in other States to form the American Medical Association; with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III—COMPONENT SOCIETIES

Component Societies shall consist of those County Medical Societies which hold charters from this Society.

ARTICLE IV—COMPOSITION OF THE SOCIETY

SECTION 1. This Society shall consist of Members, Delegates and Honorary Members.

SEC. 2. *Members.* The Members of this Society shall be the members of the Component County Medical Societies.

SEC. 3. *Delegates.* The Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective Component County Societies in the House of Delegates of this Society.

SEC. 4. *Honorary Members.* Honorary members shall be of two classes, resident and non-resident.

SEC. 5. Resident Honorary Members shall be chosen from those who have practiced medicine not less than *thirty* years and have been active members in good standing of this Society for at least *ten* years. They shall be nominated by the Council at any of its meetings and may be elected by the House of Delegates at the Annual Meeting following such nomination. They shall have all the privileges of the Society and receive all publications without the payment of dues. Not more than five Resident Honorary Members shall be elected at any one meeting.

SEC. 6. Any distinguished physician, not a resident of this State, may be elected an Honorary Member, provided he has been nominated by the Council at a previous meeting. Not more than two non-resident Honorary Members shall be elected at any one meeting.

ARTICLE V—HOUSE OF DELEGATES

The House of Delegates shall be the legislative and business body of the Society, and shall consist of (1) delegates elected by the Component County Societies, and (2) *ex-officio*, the officers of the Society as defined in this Constitution, without power to vote. (*As amended June 28, 1905.*)

ARTICLE VI—SECTIONS AND DISTRICT SOCIETIES

The House of Delegates may provide for a division of the scientific work of the Society into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of the Component County Societies.

ARTICLE VII—SESSIONS AND MEETINGS

SECTION 1. The Society shall hold an Annual Session during which there shall be held daily General Meetings, which shall be open to all registered members and delegates.

SEC. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

ARTICLE VIII—OFFICERS

SECTION 1. The officers of this Society shall be a President, four Vice-Presidents, a Secretary, a Treasurer and a Board of Councilors of such number as the House of Delegates, upon recommendation of the Council, may from time to time fix by resolution. (*As amended Sept. 28, 1911.*)

SEC. 2. The President and Vice-Presidents shall be elected for a term of one year. The Secretary and the Treasurer shall be elected by the Council at its Annual Meeting in January, and each shall hold his office for one year. The Councilors shall be elected for terms of six years each, these terms being so divided that four Councilors shall be chosen each alternate year. All of these officers shall serve until their successors are elected and installed. (*As amended May 15, 1907.*)

SEC. 3. The officers of this Society, not otherwise elected, shall be elected by the House of Delegates on the morning of the last day of the Annual Session; but no Delegate shall be eligible to any office named in the first section, except that of President or Councilor; and no person shall be elected to any such office who has not been a member of this Society for at least two years.

ARTICLE IX—FUNDS AND EXPENSES

SECTION 1. Funds for meeting the expenses of the Society shall be provided by a yearly fee of two dollars for each member, payable in advance to the Secretary of this Society by the Secretary of his Component County Society, and from the profits of its publications.

SEC. 2. Funds may be appropriated by the House of Delegates, subject to an approval by the Council, to defray the expenses of the Annual Sessions, for publication, and for such other purposes as will promote the welfare of the Society and the profession.

ARTICLE X—RECIPROCITY OF MEMBERSHIP AMONG STATE SOCIETIES

To broaden professional fellowship among the State Societies, the Michigan State Medical Society, by its President and Secretary, is ready to arrange with other State Medical Societies, having equal requirements, for the interchange of certificates of membership. Members removing from one of these States to another may thus avoid the formalities of re-election.

ARTICLE XI—REFERENDUM

The General Meeting of the Society may by a two-thirds vote order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the members of the Society for a final vote; and, if the persons voting shall comprise a majority of all the members registered at the session, a majority of such vote shall determine the question, and be binding upon the House of Delegates.

ARTICLE XII—THE SEAL

The Society shall have a Common Seal, with power to break, to change or to renew the same at pleasure.

ARTICLE XIII—AMENDMENTS

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at that Annual Session, provided that such amendment shall have

been presented in open meeting at the previous Annual Session, and that it shall have been sent officially to each Component County Society at least four months before the session at which final action is taken.

BY-LAWS

CHAPTER I—MEMBERSHIP

Section 1. All members of the Component County Societies, who are not in arrears for dues, shall be privileged to attend all meetings and to take part in all of the proceedings of the Annual Session, and shall be eligible to any office within the gift of the Society, except as otherwise provided. See Constitution, Art. VIII, Sec. 3.

Any member in arrears for dues to the amount of one year or more may regain membership either by paying up all back dues or by being again elected to membership. (*As amended June 29, 1905.*)

Sec. 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered County Society shall be *prima facie* evidence of his right to register at the Annual Session in the respective bodies of this Society.

Sec. 3. No person who is under sentence of suspension or expulsion from any Component Society of this Society, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Society; nor shall he be permitted to take part in any of its proceedings until such time as he has been relieved of such disability.

Sec. 4. Each member in attendance at the Annual Session shall register, indicating the component society of which he is a member. When his right to membership has been verified he shall receive a badge which shall be evidence of his right to all the privileges of membership at that session. No member or delegate shall take part in any of the proceedings of the Annual Session until he has complied with the provisions of this section. (*As amended Sept. 28, 1910.*)

CHAPTER II—ANNUAL AND SPECIAL SESSIONS OF THE SOCIETY

Section 1. The Society shall hold an Annual Session at such time and place as has been fixed at the preceding Annual Session.

Sec. 2. Special sessions of either the Society or the House of Delegates may be called by the President at his discretion or upon petition of twenty delegates.

CHAPTER III—GENERAL MEETINGS

Section 1. The General Meetings shall include all registered members and delegates, who shall have equal rights to participate in the proceedings and discussion, and to vote on pending questions. Each General Meeting shall be presided over by the President, or in his absence or disability, or by his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President, and the entire time of the Session, so far as may be, shall be devoted to papers and discussions relating to scientific medicine. (*As amended May 25, 1906.*)

Sec. 2. The General Meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and public, and to receive and to dispose of reports of the same; but any expense in connection therewith must first be concurred in by the Council.

Sec. 3. Except by special vote the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed. No paper shall be read by title nor read by any other person than its author except as a result of sickness of author, or by unanimous vote of the section to which it belongs. (*As amended Sept. 14, 1909.*)

Sec. 4. No address or paper before the Society, except that of the President, shall occupy more than fifteen minutes in its delivery; and no member shall speak longer than five minutes or more than once on any subject. (*As amended May 25, 1906.*)

Sec. 5. All papers read before the Society shall be its property. Each paper read shall be deposited immediately with the Secretary, but the author may also publish the same in any reputable journal not published in this State, provided the printed article bears the statement that it was "read before the Michigan State Medical Society."

CHAPTER IV—HOUSE OF DELEGATES

Section 1. Each Component County Society shall be entitled to send to the House of Delegates each year one delegate for every 50 members, and one for each major fraction thereof; but each County Society holding a charter from this Society, which has made its annual report as provided in this Constitution and By-Laws, shall be entitled to one delegate.

Sec. 2. The House of Delegates shall meet annually at the time and place of the Annual Session of the Society, and shall so fix its hours of meeting as not to conflict with the first General Meeting of the Society, or with the meeting held for the address of the President, and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with their duties. But, if the business interests of the Society and profession require, it may meet in advance, or remain in session after the final adjournment of the General Meeting. (*As amended May 25, 1906.*)

Sec. 3. A majority of the registered delegates shall constitute a quorum. All of the meetings of the House of Delegates shall be open to members of the Society.

Sec. 4. It shall consider and advise as to the interests of the profession, and of the public in those important matters wherein it is de-

pendent upon the profession, and shall use its influence to secure and to enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

SEC. 5. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body in such a manner that at least one of the delegates shall be elected each year.

SEC. 6. It shall divide the counties of the State into Councilor Districts. When the best interest of the Society and the profession will be promoted thereby, it may organize in each a District Medical Society, to meet midway between the Annual Sessions of this Society. Members of the chartered County Societies, and no others, shall be members in such District Societies. (*As amended May 27, 1904.*)

SEC. 7. It shall have authority to appoint committees for special purposes from among members of the Society who are not members of the House of Delegates, and such committees may report to the House of Delegates in person, and may participate in the debate thereon.

SEC. 8. It shall approve all memorials and resolutions issued in the name of the Society before the same shall become effective.

SEC. 9. It shall present a summary of its proceedings to the last General Meeting of each Annual Session, and shall publish the same in the JOURNAL of the Society.

SEC. 10. The House of Delegates shall provide for the division of the scientific work of the Society into appropriate Sections:

First—A Section on General Medicine.

Second—A Section on Surgery.

Third—A Section on Obstetrics and Gynecology.

Fourth—A Section on Ophthalmology and Oto-Laryngology. (*As amended Sept. 28, 1911.*)

CHAPTER V—SECTIONS

SECTION 1. Sections shall hold their meetings at such times and in such places as shall not interfere with the General Meetings.

At each Annual Meeting a Chairman shall be chosen for each Section, to serve for one year. A Secretary shall be chosen every second year to serve for two years or until his successor is elected.

All papers, communications and matters of technical or professional nature shall be referred to the Section to which they pertain.

CHAPTER VI—ELECTION OF OFFICERS

SECTION 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect, unless otherwise provided.

SEC. 2. The House of Delegates shall elect annually at its first meeting a Nominating Committee of five from the House of Delegates, no two of whom shall be from the same Councilor District. (*As amended June 12, 1903.*)

SEC. 3. The Nominating Committee shall nominate the first, second, third and fourth Vice-Presidents, the Councilors from the Districts in which there are vacancies, and the Representatives to the House of Delegates of the American Medical Association. In so far as possible, the Vice-Presidents shall be selected with especial reference to the promotion of the work of the Councilors in the four Districts nearest their respective residence.

SEC. 4. The report of the Nominating Committee and the election of the officers nominated shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the Session.

SEC. 5. Nothing in this article shall be construed to prevent additional nominations being made by members of the House of Delegates.

SEC. 6. Any member of the Society is eligible to the office of President, and nominations to this office may be made and seconded by any member of the same.

SEC. 7. The nominations for President shall be made the first order of miscellaneous business at the General Meeting of the Society on the first day of the Annual Session. Under no other circumstances shall a nomination or announcement of candidates be made in open session.

SEC. 8. A locked ballot box, for the reception of ballots, in the custody of the Committee on Nominations above mentioned, shall be placed in or about the hall where the General Meetings are held. One or more of the Committee on Nominations shall receive and deposit the ballots in the box, at the same time checking the name of the voter from the list of those entitled to vote, which list shall include all the members of the Society registered at the meeting.

SEC. 9. The polls shall close at 11 o'clock a. m., on the last day of the Session. The result of the canvass shall be reported to the Society at the close of the General Meeting. (*As amended May 26, 1906.*)

SEC. 10. The person receiving the largest number of votes on the presidential ticket shall be declared President.

SEC. 11. In the event of a tie vote on the presidential office the presiding officer shall submit the names of the candidates in alphabetical order to the *viva voce* vote of the meeting, and the one receiving the greatest number of votes shall be declared President.

SEC. 12. The Secretary and the Treasurer shall be elected by the Council at its meeting in January, as provided.

CHAPTER VII—DUTIES OF OFFICERS

SECTION 1. The President shall preside at all meetings of the Society and of the House of Delegates; shall appoint all committees not otherwise provided for; shall fill all vacancies not otherwise provided for occurring by reason of death, disability or removal of any officer, councilor or member of any committee, occurring during the fiscal year of the Society; shall deliver an annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as

custom and parliamentary usage may require. He shall, as far as practicable, visit by appointment the various sections of the State and assist the Councilors in building up the County Societies, and in making their work more practical and useful. At least one month before the Annual Session he shall appoint a committee of five on credentials, whose report shall be the first order of business of the first session of the House of Delegates at the Annual Session. (*As amended Sept. 15, 1909, and Sept. 28, 1910.*)

Sec. 2. The Vice-Presidents shall assist the President in the discharge of his duties, and the Council in the organization and nurture of County Societies.

Sec. 3. The Treasurer shall give bond for the trust reposed in him, as fixed by the Council. He shall demand and receive all funds, due the Society, together with bequests and donations. He shall, under the direction of the Council, sell or lease any estate belonging to the Society, and execute the necessary papers; and shall, in general, subject to such direction, have the care and management of the fiscal affairs of the Society. He shall pay money out of the Treasury only on the written order of the Chairman of the Council, countersigned by the Secretary of the Society; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of the doings and of the state of the funds in his hands to the Council. He shall keep the moneys of the Medico-Legal Fund, and a record thereof, entirely separate from the general funds and records of the Society. Such moneys shall be deposited in a bank having no connection with any other bank in which the general funds of the Society are held. He shall pay money out of the Medico-Legal Fund only on the written order of the Chairman of the Executive Board of the Medico-Legal Committee and the Chairman of the Council or the Secretary of the State Society. (*As amended Sept. 16, 1909, and Sept. 28, 1910.*)

Sec. 4. The Secretary, acting with the Committee on Scientific Work, shall prepare and issue the programs for and attend all meetings of the Society and of the House of Delegates, keeping minutes of their respective proceedings in separate record books. He shall be custodian of all record books and papers belonging to the Society, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members and delegates at the Annual Sessions. In so far as it is in his power he shall use the printed matter, correspondence and influence of his office to aid the Councilors in the organization and improvement of the County Societies, and in the extension of the power and usefulness of this Society. He shall conduct the official correspondence, notifying members of meetings, officers of their election and committees of their appointment and duties. He shall be editor of the Journal of this Society, and shall employ such assistants as may be ordered by the Council. He shall annually make a report to the Council at the January meeting and the essentials of this report shall be incorporated in the report of the Chairman of the Council to the House of Delegates at the next Session. (*As amended May 25, 1906, and Sept. 16, 1909, and Sept. 28, 1910.*)

The Salary of the Secretary shall be fixed by the Council, annually. (*As amended Sept. 28, 1910.*)

Sec. 5. The business of each Annual Session shall be completed by the officers who have served throughout the session.

CHAPTER VIII—COUNCIL

Section 1. The Council shall hold daily meetings during the Annual Session of the Society and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. Three Councilors shall constitute a quorum for the transaction of business. The Council shall meet on the last day of the Annual Session of the Society for reorganization and for the outlining of the work for the ensuing year. At this meeting it shall elect a Chairman, Vice-Chairman and a Secretary.

It shall hold a meeting in January of each year at a date and place fixed by the Chairman. It shall keep a permanent record of its proceedings, and through its Chairman make an annual report to the House of Delegates at such time as may be provided. The President and Secretary of the Society shall be ex-officio members of the Council without vote. (*As amended Sept. 28, 1910.*)

Sec. 2. Collectively, the Council shall be the Board of Censors of the Society. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the Component Societies, or to this Society. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a County Society, upon which an appeal is taken from the decision of an individual Councilor. Its decision in all such cases shall be final.

Sec. 3. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such County Societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality, and shall continue these efforts until every reputable physician of the State has been brought under medical society influence.

Sec. 4. It shall upon application provide and issue charters to County Societies organized to conform to the spirit of this Constitution and By-Laws.

SEC. 5. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies, to be designated by hyphenating the names of two or more counties so as to distinguish them from district and other classes of societies. These societies, when organized and chartered, shall be entitled to all the privileges and representation provided herein for County Societies, until such counties may be organized separately.

SEC. 6. The Council shall provide and superintend the publication and distribution of all proceedings, transactions and memoirs of the Society, and shall have authority to appoint an editor and such assistants as it deems necessary. Further, to facilitate this work, it shall be the duty of the Secretaries of the Sections, during each Annual Session, or as soon thereafter as practicable, to deliver to the Editor, or his duly appointed agent, all such proceedings, reports, addresses, papers and other documents as may have been ordered for publication. All money received by the Council, or its agents, resulting from the discharge of the duties assigned to them, must be paid to the Treasurer of the Society, and all orders on the Treasurer for disbursements of money in any way connected with the work of publication must be indorsed by the Chairman of the Council and countersigned by the Secretary of the Society. All matters of the Society pertaining to the expenditure of money for other purposes shall be referred, during the Annual Session, to the Council, who shall report upon the same within twelve hours, and if the House of Delegates orders the expenditure of money in connection with said report, the payment shall be made by the Treasurer as provided above. It shall be the further duty of the Council to hold the official bond of the Treasurer for the faithful execution of his office, annually to audit and authenticate his accounts, and to present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Society during the year, and the amount of all other property belonging to the Society under its control, with such suggestions as it may deem necessary.

In the event of a vacancy in the office of the Secretary of the Society, or the Treasurer, or Chairman of the Medico-Legal Committee, the Chairman of the Council shall fill the vacancy *ad interim* until the next meeting of the Council. (*As amended Sept. 16, 1909, and Sept. 28, 1910.*)

SEC. 7. Each Councilor shall be organizer, and peacemaker for his District. He shall visit each county in his District at least once a year for the purpose of organizing component societies where none exists, inquiring into the condition of the profession, and for improving and increasing the zeal of the County Societies and their members. He shall make, on blanks furnished by the State Secretary, a report of his doings and of the condition of the profession of each county in his District to the Council at its Annual Meeting in January. The necessary traveling and hotel expenses incurred by the Councilor in the line of duties herein enjoined and in attending the annual meeting of the Council in January shall be audited by the Council at its annual meeting and paid in the same manner as other Society expenses are paid. (*As amended Sept. 28 and 29, 1910.*)

CHAPTER IX—STANDING COMMITTEES

SECTION 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Arrangements.

A Committee on Medical Education.

A Medico-Legal Committee.

(*As amended May 25, 1906, May 16, 1907, and Sept. 16, 1909.*)

SEC. 2. The Committee on Scientific Work shall consist of the President, who shall be the Chairman, the Secretary, and the Chairmen and Secretaries of the Sections. It shall determine the character and scope of the scientific proceedings of the Society for each session, subject to the instruction of the House of Delegates, or of the Society, or to the provisions of the Constitution and By-Laws. Thirty days previous to each Annual Session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented, which shall be adhered to by the Society as nearly as practicable.

SEC. 3. The Committee on Public Policy and Legislation shall consist of three members appointed by the President. Under the direction of the House of Delegates it shall represent the Society in securing and enforcing legislation in the interest of the public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence of the profession to promote the general influence in local, state and national affairs and elections.

No bill or proposed law or amendment thereto shall be introduced in the State Legislature or sent to any member thereof in the name of this Society or by any of its committees until such proposed legislation shall have been indorsed and approved by the Council of this Society in regular session.

After any proposed legislation shall have been indorsed by the Council, it shall be referred to the Committee on Public Policy and Legislation, who shall thereupon have it presented for passage at Lansing, and take such steps as may be deemed necessary to secure for it the united indorsement of the Medical Profession throughout the State, and to that end it shall be the duty of the Secretary of this Society under the direction of the Committee on Legislation and Public Policy, to have printed and issued to the various County Societies, or to each member thereof as the case may require, circular letters and letters of indorsement to be addressed by physicians to their representative at Lansing, asking for the support and passage of the legislation so approved. (*As amended May 16, 1907.*)

Sec. 4. The Committee on Arrangements shall consist of five members of the County Society in the territory in which the Annual Session is to be held, and shall be appointed by the President of the Society. It shall, by committees of its own selection, provide suitable accommodations for the meeting place of the Society, the House of Delegates, the Council and the Sections, and shall have general charge of all the arrangements. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program.

Sec. 5. The Committee on Medical Education shall consist of three members, one to be appointed for one year, one for two years and one for three years, thereafter one member to be appointed each year; said committee shall select one of its own members as a Delegate to the yearly conference on Medical Education of the American Medical Association. (*As adopted May 16, 1907.*)

Sec. 6. The Medico-Legal Committee shall consist of an Executive Board of five, to be elected by the Council, and also one member from each component society to be elected by the component societies. The Executive Board shall be elected for one, two, three, four and five years, respectively, and thereafter one member shall be elected each year to hold office for five years. All other members of the Committee shall be elected for one year.

The members of the Executive Board shall be elected at the January meeting of the Council and shall immediately assume office. Members of the Medico-Legal Committee shall be elected one by each component Society participating in the defense fund, at the first meeting after September 1st and shall assume office January 1st following. (*As amended Sept. 28, 1910.*)

Sec. 7. The Council at its January meeting shall elect one of the five members of the Executive Board as Chairman, whose term of office shall be for one year. He shall also act as Chairman of the entire Committee.

No disbursement shall be made from the Medico-Legal Fund without the signatures of the Chairman of the Executive Board and the Chairman of the Council or the Secretary of the State Society.

The salary of the Chairman of the Medico-Legal Committee shall be fixed by the Council, annually. (*As amended Sept. 28, 1910.*)

Sec. 8. The Executive Board shall report to the Council at its annual meeting, giving full particulars of the work of the Committee, and a detailed statement of income and disbursements.

It shall engage by the year a competent firm as general attorneys, and fix their compensation. Their duties shall be to compile from all available sources court decisions fixing the law of liability of physicians for civil malpractice, such compilations to be the property of the Society, and also to defend any member of the Society not in arrears, when sued or threatened with suit for civil malpractice, or to supervise such defense through a local attorney. (*As adopted Sept. 16, 1909.*)

Sec. 9. Members in arrears after June 1 shall not be entitled to defense for any suit, the cause of action of which arose while in arrears, and any member sued or threatened before joining the society or before the organization of the Medico-Legal Fund must pay the actual cost of defense in such suit. (*As adopted Sept. 16, 1909.*)

Sec. 10. With the exception above noted, the Medico-Legal Committee shall undertake the defense of any member of the Society sued or threatened with suit for civil malpractice, regardless of the time when the alleged cause of action arose, and shall also defend any action for civil malpractice against the estate of a deceased member, provided he or she, while living, has conformed to the foregoing requirements. (*As adopted Sept. 16, 1909.*)

Sec. 11. In the event that during any one year the demands upon the Medico-Legal Fund be large enough to exhaust it, the Council shall be authorized to loan sufficient funds from the treasury of the State Society to meet the contingency. (*As adopted Sept. 16, 1909.*)

Sec. 12. It shall be the duty of any member of the Society threatened with action for civil malpractice to confer at once with the member of the Medico-Legal Committee from his component society and with his aid prepare the case and forward the same to the Chairman of the Executive Board. He must agree not to settle or compromise his case without the consent of the Executive Board and the General Attorneys. He may recommend, in conjunction with the local member of the Medico-Legal Committee, the best available local attorney, but the authority to engage the services of local attorneys shall lie with the Executive Board and their General Attorneys. The local attorney chosen shall enter the appearance of his client and undertake his defense under the supervision of the General Attorneys. (*As adopted Sept. 16, 1909, and amended Sept. 28, 1910.*)

Sec. 13. All attorney's fees and court costs will be paid from the Medico-Legal Fund, and defense carried through all Michigan courts, but under no circumstances shall this fund be liable for any damages declared against an unsuccessful litigant. (*As adopted Sept. 16, 1909.*)

CHAPTER X—AUTHORITY IN EMERGENCIES

When prompt speech and action are imperative, authority to speak and act is vested in the Council. (*As amended Sept. 28, 1910.*)

CHAPTER XI—ASSESSMENTS AND EXPENDITURES

Section 1. The annual assessment shall be three dollars for dues and subscription to the Journal or two dollars for dues. The secretary of each Society shall forward its assessment with a roster of all officers and members to the Secretary of this Society immediately after the annual meeting of the County Society. (*As amended Sept. 28, 1910.*)

Sec. 2. Any County Society which fails to pay its assessment, or to make the reports required, on the date above stated, shall be held

as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Society or of the House of Delegates until such requirements have been met.

SEC. 3. All motions or resolutions appropriating money shall specify a definite amount for the purpose indicated, and must be approved by the Council.

CHAPTER XII—RULES OF CONDUCT

The principles set forth in the Code of Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

CHAPTER XIII—RULES OF ORDER

The deliberations of this Societey shall be governed by parliamentary usage as contained in Roberts' Rules of Order, unless otherwise determined by a vote of its respective bodies.

CHAPTER XIV—COUNTY SOCIETIES

SECTION 1. All County Societies now in affiliation with the State Society or those which may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, or with the code of ethics of the American Medical Association, shall, upon application to the Council, receive a charter and become a component part of this Society, subject to the condition described in Sec. 4 of this Chapter. A roster of its officers and members and the annual assessment and subscription to the JOURNAL for each member must accompany the application. (*As amended Sept. 28, 1910.*)

SEC. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws a medical society shall be organized in every county in the State in which no component society exists.

SEC. 3. Charters shall be issued only upon approval of the Council, and shall be signed by the President and Secretary of this Society. The Council shall have authority to revoke the charter of any Component Society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws or the Code of Ethics of the American Medical Association.

SEC. 4. Only one Component Medical Society shall be chartered in any county. Where more than one County Society exists, friendly overture and concessions shall be made, with the aid of the Councilor for the District if necessary, and all of the members brought into one organization. In case of failure to unite an appeal may be made to the Council, which shall decide what action shall be taken.

SEC. 5. Each County Society shall be the judge of the qualifications of its own members; but, as such societies are the only portals to this Society and to the American Medical Association, every reputable and legally registered practitioner of medicine shall be eligible to membership. Before a charter is issued to any County Society, full and ample notice and opportunity shall be given to every eligible physician in the county to become a member. (*As amended June 24, 1908, and Sept. 28, 1910.*)

SEC. 6. Any physician who may feel aggrieved with the action of the Society of his county in suspending or expelling him from membership shall have the right of appeal to the Councilor of his district. (*As amended Sept. 28, 1910.*)

SEC. 7. In hearing appeals the Councilor or the Council may admit oral or written evidence as in his or its judgment will best and most fairly present facts. Efforts at conciliation and compromise shall, however, precede all such hearings.

SEC. 8. When a member in good standing in a Component Society moves to another county in this State, he shall be given, without cost, a transfer card good for the time for which his dues are paid, not exceeding one year from the 1st of January following date of issue. This card shall be void if not accepted by a component Society before such limit expires. (*As amended Sept. 28, 1910.*)

SEC. 9. A physician living near a county line may hold his membership in that county most convenient for him to attend, on permission of the Society in whose jurisdiction he resides.

SEC. 10. Each County Society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member, and by the Society as a whole, to increase the membership until it embraces every qualified physician in the county.

SEC. 11. At the Annual Meeting in the fall, or at the first meeting after January 1, due notice having been given, each County Society shall elect annually a delegate and alternate, or delegates and alternates, to represent it in the House of Delegates of this Society in the proportion of one delegate to each *fifty* members or major fraction thereof. (See By-Laws, Chapter IV, Sec. 1.) The Secretary of the County Society shall immediately send the list of its delegates to the Secretary of this Society. (*As amended June 29, 1905.*)

SEC. 12. The Secretary of each County Society shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State and such other information as may be deemed necessary. He shall furnish monthly a report of collections, removals, deaths, suspensions, resignations, and such other information as may be deemed necessary, upon blanks supplied him for the purpose, together with remittance for such collections. to the State Secretary. (*As amended June 29, 1905, and Sept. 28, 1910.*)

CHAPTER XV—AMENDMENTS

These By-Laws may be amended at any Annual Session by a majority vote of all the Delegates present at that Session after the amendment has laid upon the table for one day.

The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

Vol. XI BATTLE CREEK, MICHIGAN, MAY, 1912 No. 5

ORIGINAL ARTICLES

ERYSIPELAS: SYMPTOMS, ETIOLOGY AND PATHOLOGY*

CHARLES E. HOOKER, M.D.
Grand Rapids, Mich.

Erysipelas, because of its extreme infectiousness and the direct danger into which a patient therewith is placed, merits a greater degree of thoughtful attention than it sometimes receives in the world of practice. Long before bacteriology was known in science, our forefathers in medicine had come to know the disease as one worthy of respect. The isolation and study of the bacterial elements concerned in its development gave to medicine the reason for the ravages and spread of erysipelas, and taught the medical man, more particularly the surgeon, to exercise care in the handling, treatment and quarantining of each identified or suspected case. In fact, no conscientious surgeon, having in mind the welfare of his patients, will deal personally with the disease. While the surgeon must avoid cases erysipelatous in character, the medical man may not, though he well knows that it behooves him to exercise every possible precaution against conveying the infection from one case to others.

If these general observations are true, then we would seem justified in entering into a wide discussion of erysipelas.

Little is to be found in literature in regard to the first recognition of erysipelas as a distinct disease. Like many another, it undoubtedly found its place far back in the years, becoming separated from other inflammatory affections as its own peculiarities were recognized. The derivation of the word, "red skin," affords no information, simply directing our minds to a period during which one inflamed skin surface was not distinguished from another, except, perhaps, in the way of degree and results. A definition, brief enough to be so termed, can hardly be considered as worth much more, as a brief definition cannot be phrased to embrace the variations of the disease, or to express the wide symptomatology which may appear in a given case. Therefore to gain a satisfactory idea of erysipelas as the subject stands to-day we must undertake a full discussion of it. To the writer has fallen the task of dealing with

* Read before the Kent County Medical Society, Feb. 14, 1912.

the subject. "Erysipelas: Symptoms, Etiology and Pathology."

No doctor of medicine engaging in his profession will practice long without meeting his first case of erysipelas. It is not an uncommon disease — he may meet it frequently. Thus, as he comes in contact with it he soon learns the cardinal symptoms of such cases as follow the type, and by the same token adopts the treatment seeming best indicated in each case. His results are generally satisfying to himself and his patients, and all is well. But what about his atypical cases? Those for instance in which the onset is unusual, or the complications severe — atypical in any direction, for that matter? These constitute the stumbling blocks in the paths of all practitioners, and while one writing on the subject will do well not to forget the typical, he would be equally remiss in neglecting a review of the atypical symptoms.

Ordinarily there are no premonitory signs in erysipelas. If present, they are not different than such as may be found preceding other illnesses. The patient suffering from headache, malaise, nausea, etc., may exhibit an erysipelas later, but if such symptoms do presage that disease, they are seldom marked. Commonly the onset of the disease is abrupt, a sharp chill with a prompt rise of temperature being characteristic of it, indicating infection by an organism of high virulence. Within a few hours the surface eruption appears. The spread of this eruption is usually rapid, and its appearance ordinarily leads to early diagnosis. In the patient with typical erysipelas, the skin lesions need not be mistaken. Taken from the point of attack, which as a rule presents some sign of injury or abrasion, the eruption assumes an elevated, shiny, purplish red appearance and is from the first annoying to the patient, in that tenderness, accompanied by burning or at least itching sensations is present.

Perhaps the most characteristic peculiarity is to be found in the distinct borders of the advancing eruption. The line of demarcation is very distinct, the elevated red or purplish-red eruption contrasting sharply against the uninvaded skin. If the attack shows multiple areas, each spreads characteristically to merge later one with another. Not exceptionally the affected surfaces, as a result of the high degree of inflammation, exhibit vesicles or small bullæ containing serum or pus. If these do not appear, there is always enough serous extravasation into the skin and subcutaneous tissues to provoke the tense, elevated lesion. Depending on the degree of virulence of the infecting organism, the resistance of the subject infected, and the early combat which may be waged against the disease, its extension, as manifested cutaneously, reaches its height in from five days to a week. The face — the region most often attacked — may at the height of the trouble be completely involved. The loose tissues about the eyes being extensively infiltrated with serous exudate, the eyes are closed. The lips and ears are excessively swollen, and the whole face shows a dusky, engorged reddened surface. Again the disease may not cover so great an area — only invade one side of the face or confine itself to even a much smaller area. Except in the aggravated cases or, maybe, in such as have been neglected or poorly treated, the erysipelatous eruption does not invade hairy regions.

But erysipelas does not by any means limit itself to the face. Any surface of the body may be its seat. When the disease presents itself on a surface other than the face, it is not at all strange to witness extension in streaks, the lymphatic chains being followed by the infection.

Having reached a point of highest intensity, the process remains stationary for a few days. In subsiding, the inflamed surfaces become less glistening, and a lifeless brown color is apt to ensue. This hue is succeeded by a lighter shade, which progresses to result, after a number of weeks, in the normal. In the meantime vesiculation has ceased, the heat and burning subside, the swelling recedes and desquamation of the affected skin and crusts, formed by the drying of the content of vesicles and blebs, occurs. As a result of the disease there is seldom permanent damage in the nature of scars and pigmentation, though commonly the natural color of the skin may not be regained for many weeks, and there remains for a long period a sensitiveness to extremes of heat and cold or irritants of any kind.

Accompanying the local signs and symptoms are constitutional phenomena varying in intensity according to the degree of absorption and, again, the resistance of a given patient. We have already spoken of the chill and temperature which usher in the disease. Vomiting may be another early symptom. The temperature ascends to a high point — not infrequently reaching 105 degrees or higher, and continuing, with morning decline and evening rise, throughout the active period of the process. The urine is found to be high in color and contains albumin in most instances. The pulse is of course accelerated to a rate corresponding with the temperature. Under the strain, and from toxic causes, the pulse, which at first is bounding, is apt to weaken to an alarming extent. Sudden changes in the temperature and pulse-rate may be regarded as indicating fresh absorption, or as pointing to a new field of infection. In severely poisoned cases delirium exists. The constitutional symptoms may be grave or comparatively mild, for obvious reasons.

With this résumé of the symptoms of erysipelas, as they exist in the average case, and which, as stated, seem to be the typical ones, it is well now to consider the disease as it appears atypically.

It has been shown that the skin areas attacked are limited ones in most cases, but that the infection may distribute itself widely and produce even a generalized erysipelas, is well known, though such cases, always fatal, are rare. The writer has seen one such case, and may reasonably expect never to witness a more deplorable sight. So we may have the malady exhibited over a large area. The statement has been made that erysipelas is ushered in by a chill and elevated temperature, but we also know that there is an afebrile class of cases, which merits our deep concern quite as much as does the case with hyperpyrexia. The heat centers have been differently influenced in the two forms. It is written that erysipelas manifests itself in the skin, yet we must not forget that the mucous membranes and subcutaneous tissues may become rather frequently infected, in the latter instance resulting in cellulitis. Likewise, glandular involvement may be present with abscess formation. The usual case seldom involves the hair-bearing regions, but one must not regard that as an unvarying rule. We have all seen cases with more or less scalp and beard involvement.

There are left to enumerate still more confusing forms. Hutchinson describes cases in which the invaded areas, while swollen and edematous, lack the color — the so-called "white erysipelas." Then we have come to fully recognize a form known as erysipelas migrans, in which the malady tends to relapse in new sites, over a period of weeks. This condition constitutes the "chronic erysipelas" which occasionally tests an attending physician's patience and skill, and occasions errors in diagnosis too

frequently. Again there is a peculiar tendency exhibited in some cases, in that the eruption seems to clear in the older sites as peripheral spread goes on.

It is hardly necessary to more than allude to the extremely mild forms of erysipelas. In these neither local nor constitutional symptoms are of serious annoyance to the patient. Nevertheless, these are frequently difficult of diagnosis, and doubtless pass undiagnosed quite often. The fact that the mild case is a decided menace as an infectious disease, invites against failure to recognize it. Though the slightly infected case may not be in any particular distress or danger, he may, through ignorance or poor advice, hand on his malady to others in whom the disease may develop to an alarming extent. We must therefore recognize erysipelas of all degrees of severity as a serious disease, in which there can be no excuse for indifference in management.

Summing up the matter of symptoms, we have seen that the course of erysipelas is, in most respects, that of any acute infection; that these symptoms, local and constitutional, may be grave or mild dependent on the virulence of the infecting agent and bodily resistance; that, as a rule, each case follows a type, and that no case, however mild, permits of neglect, because of the infectiousness of all cases.

Of the complications apt to occur from infection of certain regions, time forbids a full account. A few may be mentioned, as set down tersely by Pusey, who says: "Complications arising from the spread of the disease from the skin to the other structures are not uncommon. Involvement of the mucous membranes is the commonest complication of this kind. The disease may spread to the mucous membranes of the mouth, nose, pharynx, rectum, or vagina. When involving the fauces, serious destruction of the tissues may occur from ulceration or gangrene, and in the larynx it is likely to produce obstructive edema. When occurring about the genitals in females its spread to the uterus and adnexa produces a very grave complication. On the face and scalp not uncommon complications are meningitis and sinus thrombosis. It may spread into the eyes or ears and produce serious permanent destructive changes. It may extend through the eustachian tube to the middle ear and pass thence through the external auditory canal to the scalp. From the mouth it has extended to the lungs and the esophagus; is said in one case to have traveled entirely through the gastro-intestinal tract."

These words of course deal with unusual complications and sequelæ out of the ordinary, but, as they may follow, the attendant cannot be too diligent.

Passing from this hasty review of symptoms to the etiology of erysipelas, we are confronted by facts which have become clinically established, others resting on statistical support, and a partially established array in a third class, which is the result of the experience and observations of many clinicians. To the last class we cannot give time, interesting though an extensive review of the literature might prove. A consideration of the well-established points only will be touched on.

Stelwagon writes: "The disease is both contagious and infectious, at times to a marked degree, at other times apparently scarcely at all. There are probably three causes operative in erysipelas — essential, contributory and predisposing."

Agreeing with other clinicians and students of pathology, this author accepts as the essential cause, the streptococcus of Fehleisen. The contributory cause is to be set down as any solution of continuity of the skin or mucous membrane, no matter how small, through which infection

may gain entrance. The predisposing causes have to do with, first, the personal condition of the patient — debility due to disease or age, to alcoholism or insufficient nourishment; second, age in itself appears to be a factor, erysipelas seeming most prone to attack persons between the ages of 20 and 50; and, third, season. Anders, who has tabulated over 2,000 cases, distributed over two decades, shows that the late winter and early spring months were ones during which the malady was most prevalent.

To adopt the headings here set down, and to discuss the etiology more in detail, let us return to the bacteriologic phase. The streptococcus of Fehleisen is, as has been said, the organism commonly isolated, and is accepted as the essential cause of most if not all cases of erysipelas. Other investigators, while not denying the part played by this germ, at the same time contend that the Fehleisen streptococcus, if not identical with the *Streptococcus pyogenes,* is of the same strain. A series of cases, studied bacteriologically in Philadelphia some years ago, revealed a special diplococcus. This organism has not received wide recognition. In any event we are warranted in regarding erysipelas as a streptococcic infection, and furthermore to be a disease in which mixed infection may be often proved to exist. The staphylococcus has frequently been isolated, and is thought by some to be capable of producing the disease.

Under the caption Contributory Causes might be cited many actual conditions, and one can well imagine many others. Any agency which produces an infectable surface falls under this division. Therefore it is not at all necessary to attempt to list them. Dermatologists find that the lesions of any skin affection may become erysipelatous. This is particularly true in those skin diseases in which the areas attacked have been long diseased.

We need not add further to the points already made under the heading Predisposing Causes. One author, explaining the showing of Anders, just alluded to, claims that the human race, debilitated by the rigors and confinement of winter, are more susceptible. The claim appears logical. If true, season, *per se,* need not be regarded as an important etiologic factor.

The infectiousness and contagiousness of erysipelas are entitled to a further word. Were it possible, I should like to bring out at length the relative infectiousness and contagiousness of erysipelas, and some of the diseases brought under health board control. With no thought of decrying the efforts directed against the spread of diphtheria, the necessity therefor is no greater than the need for isolation of cases of erysipelas. The mortality in the former, thanks be to antitoxin, is hardly greater than exists in the latter, serious sequelæ are no more apt to follow, yet the contagiousness of erysipelas must be admitted to be greater than that of diphtheria. I cite diphtheria as an instance. Perchance there are others of the communicable class, with the appearance of which, as with diphtheria, a hue and cry is excited far beyond that which should be accorded to erysipelas. It is well that, though legally unrecognized, there exists, among most physicians and in all well-governed institutions for the general care of the sick, unwritten rules of conduct in recognition of this threatening disorder.

In dealing with the bacteriologic side of my subject, the pathology of erysipelas has been entered on. It remains to be shown what tissue changes are brought about through invasion by the bacteria mentioned. The lymph spaces and connective tissue are invaded by streptococci. If there is vesiculation over the diseased

regions, the organism is to be found in the contents of the blebs. Except in those cases resulting in septicemia, and in the very widely distributed forms, the blood-vessels are not invaded by the germ. Miles' studies of the bacteriologic side of erysipelas show that the organism appears differently distributed as follows:

1. In the spreading border just beyond the reddened area (the zone of greatest tenderness) the lymphatics are full of streptococci.

2. Next behind this the tissues present all the evidences of acute inflammation with abundance of leukocytes which have taken up streptococci.

3. Still further back the reaction is subsiding, the leukocytes are being destroyed by the fibroblasts or macrophages, and no free organisms are visible.

4. Finally, when the process has ceased, the products of inflammation have been carried off and the tissues are normal. These findings are quite in keeping with the clinical phenomena exhibited in erysipelas.

Unnas' belief that one attack predisposes to another, a theory which has found great favor, may be explained by the results of the investigations of Besnier, Hutchinson and Allen, who have shown that the tissues attacked by erysipelas may retain some of the streptococci. Hutchinson goes so far as to say that an erysipelatous area never becomes free from streptococci, which under proper provocation may become active. All practitioners have witnessed the tendency in many patients, once victims of erysipelas, to develop it on later occasions, perhaps in milder forms.

The result of the onslaught of these bacteria is, roughly speaking, an acute septic inflammation. Histologically, the venous and lymphatic elements are greatly engorged and filled with sero-fibrinous exudate. The stasis resulting is productive of the characteristic edema of the disease. When hairy regions are invaded, a temporary alopecia may ensue, due to an invasion of hair follicles. In all cases the upper strata of the skin show greatest change; in severe types changes in the corium are to be noted. As a matter of fact, there is not much difference histologically in the erysipelatous area and that to be found in any acute inflammation. From this streptococcic invasion no permanent changes in structure result, except in areas which have been repeatedly or very severely attacked.

In this hurried review an attempt has been made by the writer to be concise, that full time may be given to the phases to be treated in the paper following. The endeavor has been to set forth salient points, and to present these in a manner which will properly introduce, rather than conflict with, the further consideration of erysipelas.

CONSIDER THIS PLEASE

One of our members who comes oftener than some of our Canonsburg and Washington men, writes as follows: "I am sending my dues. It is not my wish to miss any of the meetings of the society but my location makes it impossible to attend in winter. I must leave home at 5:30 a. m., driving 12 miles to the railroad. Coming home I leave the station at 7 p. m., and when I have driven the 12 miles home it takes much of the pleasure out of it."

Those of us who can go in a few minutes in comfort please consider what it means to this man when through neglect or indolence we fail to make the meeting interesting. Meet these men with a glad hand and show them that you appreciate their effort. We happen to know that this particular man does not have the best of health, but he has a great big heart in him to go at all. It takes a mighty small excuse to keep some fellows we know at home on meeting day.—*Medical Program*, Washington Co. (Pa.) Med. Soc.

ERYSIPELAS*

ANDREW P. BIDDLE, M.D.
Detroit

DIAGNOSIS

Our (Dr. R. A. C. Wollenberg's and my own) experience is based largely on the only exclusive service in Detroit for the care of erysipelatous patients, on a continuous service in St. Mary's Hospital, in the Woman's Hospital and Infant's Home and in the Children's Free Hospital. The well-known intimate relationship between the erysipelas organism and that of puerperal fever and the danger of erysipelas contaminating the surgical cases make the service one of grave responsibility. To err either way is serious, sometimes fatal. To place a septic among the erysipelatous patients is often as fatal an error of judgment as to permit a truly erysipelatous to remain an hour too long among susceptible patients. But, as our experience grows, we recognize the inability to be infallible and become more tolerant of error.

The text-books tell us that the diagnosis is easy; but an experience of a quarter of a century does not teach us so. Our chief difficulty, unfortunately a serious one, lies in the differentiation between this "septic" condition and the erysipelatous. A suspected case breaks out suddenly in a ward filled with surgical patients; the erysipelas ward harbors a case or two; a condition which requires a prompt decision.

That erysipelas is due to a streptococcic infection is universally admitted; but so variable is this streptococcic activity and so varied the clinical manifestations, probably more so than those due to any other pathogenic organism, that the specific organism responsible for the erysipelatous activity is most difficult to isolate. That it is of the streptococcic class of which the *Streptococcus pyogenes* is the most common is probable. This difficulty of the laboratory expert to differentiate, a difficulty freely admitted by every laboratory worker whom we have consulted, between the erysipelatous streptococcus and the suppurative and his belief in their probable identity, eliminates his support in our effort at differential diagnosis and places the diagnosis entirely on clinical grounds, fortified only by clinical experience. And this view of the identity of the two, or more probably of the inability of art to differentiate between the two, is shared by many clinicians, whose experience is that, while under ordinary circumstances the clinical appearances are well defined, at other times apparently the same organism may in the one instance produce the true erysipelas and in the other the cellulitis, a strictly comparable inflammation of the cellular tissues. But when the inflammatory process involves both the epidermic and the cellular tissues the condition of cellulocutaneous erysipelas results. The phlegmonous and the gangrenous are but severe examples of cutaneous erysipelas of mixed infection. No uncomplicated erysipelas is attended by suppuration.

When, however, certain clinical symptoms are clearly defined the diagnosis is readily made. A strong emphasis may be placed on the following: an initial

* Read by invitation before the Kent County Medical Society, at Grand Rapids. Feb. 14, 1912.

inflamed area, daily, sometimes hourly, advancing with a sharply defined line of demarcation; with pitting, if any, at the borders; and with but little pain on pressure — in contrast to the diffuse redness of the septic condition; the involvement in the latter of the deeper structures; the pain on deep pressure, and its point or points of fluctuation, if pus be present. In addition, emphasis on the short period of incubation, the acute onset, the angry, red, inflammatory area, the shining surface, the frequent initial chill and the accompanying fever.

The diffusion of the inflammatory process along the lines of the lymphatics, with the occasional swelling of the neighboring glands, easily eliminates the lymphangitis.

Though works on surgery place phlebitis, acute spreading gangrene and acute osteomyelitis also among the diseases to be differentiated, it seems to us that their symptoms are too well defined to need further comment.

It is often written that erythema and eczema resemble erysipelas. But the former has none of the pain and but little of the swelling and is attended with no fever; its location is usually on the trunk and extremities; and it occurs in spots or blotches, fading into the normal skin. The burning skin covered, as it is, with fine scales or vesicles or pustules, the frequently thickened epidermis, the intensely itching surface and the absence of constitutional symptoms sufficiently differentiate the eczema.

That in the mind of the practitioner acute dermatitis is to be differentiated from erysipelas has been shown us recently in a letter received, asking for aid in diagnosis; but the dermatitis lacks the well-defined border, is usually attended with small vesicles, rarely is so limited in its distribution and is never accompanied by a rise in temperature.

Does chronic erysipelas exist? We have always doubted it. A tendency to the recurrence of erysipelas unquestionably exists, and a recurrence of the disease in a patient during an attack is not infrequent; but we have never seen a persistent, chronically inflamed erysipelas. We have heard the term chronic erysipelas given to the severer forms of rosacea; but it is hardly necessary to draw the line of differentiation between two diseases so clinically distinct. Again, we have heard the term confounded with a chronic suppurative inflammation of different parts, as to the end of the nose (due to the chronic folliculitis inside the nostrils); but the absence of the classical signs of erysipelas is too clear for mistake in diagnosis.

A so-called "erysipeloid" is described by authors as an "erythematous inflammation, somewhat resembling erysipelas, observed usually on the hands of persons engaged in handling animal products that are liable to putrefaction and decay, especially fish, shell-fish, meats, poultry and cheese. Hence it is commonly encountered in dealers in fish, game and poultry, butchers and cooks." Similar lesions are found among laboratory workers and medical students, following dissection wounds. Undoubtedly it is a disease due to some pathogenic organism, but the organism is distinct from that causing erysipelas.

TREATMENT

The history of the treatment of erysipelas is the history of empiricism, of antiseptics, of vaccines and of serums. Yet much of that which is based on empiricism in the past, in so far as it has reference to external treatment, is found to-day to have a scientific basis. Though many of the same remedies have been used for years and been regarded as specific for the disease and though the usual short duration of the disease renders the crediting a

beneficial effect to almost any remedy possible, no such specific exists. The most effective are those given to combat existing symptoms. Probably no one medicine represents this continued employment of a remedy based on no scientific fact better than does the tincture of the perchlorid of iron, especially in the advocated doses of 2 to 8 c.c. every two to four hours until convalescence is well established. Such an overdosing with a medicine so injurious to the stomach, even in the asthenic, for whom on theoretical grounds it might be indicated, is hardly justifiable. Even less so, to our mind, is the use of so dangerous a remedy as pilocarpin by hypodermatic administration in doses of 0.01 gm. to 0.015 gm.; and the same may be said in a lesser degree of the use of the sulphate of quinin and of belladonna. So self-limited usually is the disease that the patient will regain his normal condition of health without any internal medication. Yet we would not go to the length of decrying the use of any medicine; we are not medical nihilists.

Of the apparently idiopathic cases many, when they are first seen or brought into the hospital, are in a state of high delirium and great nervous excitement; many are old and prostrated or excitable alcoholics; others have already been under a severe mental or physical strain or have suffered the shock of a surgical operation; some are young, some old and feeble; some emaciated, others heavy, fat, diabetic, or victims of Bright's disease, with constipated bowels, and scanty urine. All probably have a coated tongue, a high bounding or a rapid, feeble pulse, have suffered from a chill or two, and have a high temperature. Such symptoms are to be combated with appropriate remedies. Thus to the one is given a calomel or a calomel-jalap purge, followed by a saline; to the other stimulation; to another aconite or belladonna or strychnin as our experience as physicians would indicate. In the severe cases characterized by a high fever, the bounding pulse and throbbing carotids or by the fierce delirium, aconite or veratrum viride in full doses may be indicated; if the delirium is low and muttering, elaterium. At other times the restless delirium and insomnia may be controlled better with the use of chloral or the bromids or opium; and the fever by proper bathing and sponging. During convalescence appropriate tonics are administered, as the hypophosphites, etc.

VACCINES

It is but natural that a disease due to a definite microorganism should receive the consideration of the vaccine therapeutists and it is not to be wondered at that their experience is so variable, when, as it has already been stated, the isolation of the *Streptococcus erysipelatis* of Fehleisen is so difficult. Probably Dr. George W. Ross of Toronto, more than any other medical man in Ontario, has given greater study to the "consideration of the production of an *artificial* immunity by inoculation with a vaccine," and with his permission we quote freely from a recent letter and from his and Dr. W. J. Johnson's paper (*The Journal of the American Medical Association,* March 6, 1909). After giving their reasons for belief in the efficacy of a specific vaccine in these words:

> It would thus seem probable that the general symptoms of malaise, pyrexia, acceleration of the heart-beat, and mental apathy or irritability are all due to the absorption of the specific toxin of the streptococcus, while, on the other hand, the local signs and symptoms are consequent on the local multiplication of the microorganisms in the lymph spaces of the skin and the local production of toxins; moreover, that a remedial measure which is capable of inhibiting the reproduction of the streptococcus would be likely to control the clinical manifestations of the disease quickly. These

authors give the results of the treatment of a series of fifty cases.

Speaking from the standpoint of immunity, they write:

> The opsonic power of the blood is low during the acute process of the disease and whenever more or less rapid spread is manifest; again, the subsidence of such symptoms as mental unrest or apathy, pain and tenderness and the localization of the inflammatory area are closely associated with an increased immunity as evidenced by a rise of opsonic power.

Judging from the standpoint of clinical observation of the course of the disease as apparently influenced by inoculation with their vaccine, they state:

> Whatever surface becomes involved subsequent to inoculation manifests a less severe form of inflammatory process; mental unrest and physical discomfort are rapidly controlled; pyrexia seems to subside more rapidly and long-continued pyrexia has not been encountered; complications and sequelæ seem to be much less common.

In the first sixteen patients treated the opsonic principles of vaccine therapy were carefully observed, but there was "such a uniformly immunizing response and clinical result" that the remaining thirty-four were treated without the opsonic index being taken. Their experience leads them to the belief that a vaccine for each patient is not necessary, except that in the more virulent case the patient's own streptococcus as a vaccine would be more efficacious. Their plan has been to inoculate first with 10,000,000 to 20,000,000 of the devitalized streptococci as the condition is more or less severe, the smaller dose being reserved for the more severe condition. On the second day a repetition of the dose in the more severe cases, if there be signs of improvement, marked by a clearer intellect and a lessened intensity of the local condition. If no improvement has been obtained then only 5,000,000. They claim that they have witnessed an improvement almost invariably on the following day, when 10,000,000 should be given; then 5,000,000, 10,000,000 or 20,000,000 of streptococci every second day until a week after the temperature has reached the normal and the redness has subsided; being guided by conditions, adhering to the general rule, "the more severe the case and the less satisfactory the clinical response, the smaller the dose."

They confirm our experience that the site of inoculation is not important; that it is not necessary that it be near the site of the infection.

In a letter dated Jan. 23, 1912, in response to the inquiry Dr. Ross writes us that in the paper published in *The Journal of the American Medical Association* referred to, he reported some fifty cases which had ben treated by a stock vaccine prepared by heating in the usual way. Since that time he has been preparing his vaccine by sterilization with carbolic acid in the strength of 1 to 200. Living cultures are exposed to this for two or three days and the vaccine is prepared in the usual fashion. So far as he can gather, this is of advantage clinically, and, he believes, certainly it is a more potent vaccine, being twice as powerful as the vaccine prepared by the use of heat. That means instead of 5 or 10 millions, as the case may be, he now gives half the amount. To his original list of fifty cases he has added 150 and writes that this larger experience has absolutely convinced him of the exceedingly great value of an erysipelas vaccine in the control of the disease.

Our own experience with the vaccine (stock) has not been such as to encourage its exclusive use. We have seen no changes which might not have been brought about by other forms of medication or which might not have occurred in the course of so irregular a disease with so many clinical types. And other observers would seem to

bear us out. Thus Weaver and Boughton (*Journal of Infectious Diseases,* Vol. 5, 1908, page 608), summarize their experience as follows:

They state that from their experience in the cases reported they are forced to conclude that the injection of devitalized polyvalent heterologous streptococci during the acute stage of erysipelas is without apparent effect on the course of the disease, the cases doing no better than the controls which received no injections. This, they state, is not surprising to them as in animal experimentation several days are required for immunity to appear following the injection; that by the time such immunity has developed the patient's body may already have developed the immune bodies and gone through the reactions that led to recovery in the natural course of the disease. In three cases of the migrating type in which the course was more prolonged, the injection appeared to have a beneficial influence.

They believe, however, that in the recurrent cases it is not unlikely that several injections with increasing doses would finally stimulate a sufficient degree of immunity to prevent further recurrence in such patients. Especially so were the streptococci isolated from the patient used.

Schorer (*American Journal of the Medical Sciences,* vol. 134, page 728, November, 1907) reports the average duration in twenty-one cases of uncomplicated erysipelas treatment as 6.8 days, in comparison with twenty-nine cases receiving local treatment only, which was found to be 9.4 days. Forty-eight patients treated with antistreptococcic serum showed an average comparable to those treated with the vaccines.

SERUMS

Not so extensively but with no lessened enthusiasm has been the endeavor to produce *passive* immunity by the use of the antistreptococcic serums. The cultures with which the horse is injected are obtained from the exudate of a number of diseases, as erysipelas, tonsillitis, scarlatina, tuberculosis and pseudodiphtheria, etc., and thus is obtained a composite, polyvalent serum.

The administration of the serum is simple: hypodermatically, most frequently between the shoulder blades and in the muscles of the back or buttocks; the usual preparations for an aseptic operation being carefully observed. The initial dose, which should be given as early as possible, varies from 10 to 20 or 40 c.c., according to the extent of the toxemia present. This may be repeated in the full or a lesser dose every eight to twenty-four or thirty-six hours until the symptoms improve. In cases of high temperature the tolerance is better and the larger doses may be administered.

Our experience with the serums has been very limited and as they have been used only in the very severe cases and, unfortunately, at a late hour, the results have not been unusually favorable. We have seen several very marked urticarial rashes follow their use, not only when given for erysipelas but for diphtheria and tonsillitis.

LOCAL TREATMENT

As has already been stated, the medicines used in the local treatment of erysipelas have a scientific basis. This basis is that the "local signs and symptoms are consequent on the local multiplication of the microorganism in the lymph spaces of the skin"; that they are probably due to the presence of one of the organisms of the streptococcic class; and that these organisms are found especially active in the extending area of the erysipelatous inflammation. Thus, almost all medicines used possess more or less antiseptic properties. But whether these antiseptics can pene-

trate into the lymph spaces and destroy the microorganisms is doubtful; so that their application does not probably do more than to prevent mixed infection and to subdue irritation; and the great effects produced are dependent on the inflammatory reaction excited.

The most commonly used of this class to-day is ichthyol in ointment or aqueous solution of 10 per cent. to 50 per cent., either painted on or applied thickly spread on lint or gauze, which should be changed frequently to prevent drying or sticking. Similarly may gauze be applied saturated with a solution of carbolic acid (1 per cent. to 2 per cent.), boric acid (10 per cent. to 20 per cent.), picric acid (1 per cent.), sodium salicylate (1 : 20), resorcin (2 per cent. to 5 per cent.), the bichlorid of mercury (1 : 5,000), or lead and opium wash; or a solution of the sulphate of magnesium; or alcohol (95 per cent.); or simply cold water; the latter a remedy highly recommended by Osler, who credits Hippocrates with its use. Bolder in its application is the use of injections of antiseptic solutions a little beyond the margin of the advancing areas, such as a 2 per cent. solution carbolic acid, a solution of the bichlorid or the biniodid of mercury; and possibly bolder still is the painting of the microorganic inflamed areas with a 95 per cent. solution of carbolic acid, neutralized, of course, in the usual way with alcohol. On the same principle, to meet this extension, an inch-wide band beyond the inflamed areas is painted with the tincture of iodin or a strong solution of the nitrate of silver.

But to our mind the most efficacious and with us the most favorite method of combating the severe cases is by the continuous application of ice to the inflamed area. This method was the favorite of my late honored colleague, Dr. A. E. Carrier, and he based his reasoning on the supposed difficulty of the organism surviving under such a low temperature. The parts are enveloped as thoroughly as possible, and where the extremity is involved, it is placed in a trough of cracked ice for several days.

No consideration of the treatment of erysipelas is complete without reference to the isolation necessary, to the diet, to the temperature of the room, to the nursing, and to the convalescence. In the hospital all patients must be isolated at once. Where possible, a detention ward should be had in addition to the isolation ward, where suspected patients might be placed to await a positive diagnosis. The room should be plain and cool, very well ventilated, with little furniture but with good sunlight, to offset in a measure the depressing effects of its stern simplicity. The bed should be such as to be readily disinfected and the bedding light, but of such warmth as to insure comfort. Isolation should last as long as the process is active and until desquamation is complete. After convalescence all clothing and bedding and furniture should be disinfected and the patient thoroughly bathed with a solution of the bichlorid 1 : 5,000.

The diet should be plain but nutritious, suitable to the needs of an acutely ill or a convalescing patient.

The nursing should embrace all the ideals of the nursing art, and all the details of disinfection; for nowhere is more courage, often more physical force needed to restrain the excitable patient, who must not infrequently be restrained within the jacket. Much rest must be sacrificed to the proper care of the pus-infected eye or ear or to the necessity of frequent dressing, as all the larger vesicles and blebs should be cleansed and often the throat and the nose sprayed from time to time; and in the erysipelas of the

scalp in the woman the care of the hair is an important duty. Courage is needed to nurse under conditions of infectiousness to which no previous attack nor any physical law gives immunity. Again, much patience and tact must be exhibited in an often persistently recurring attack or during convalescence, which, though as a rule complete within two or three weeks, may be prolonged to a month or more.

In the home the hospital ideals should be carried out as far as possible.

Under such circumstances in a large majority of cases recovery takes place rapidly despite the high fever, extensive distribution and delirium. We have had cases with a recurrence of the erysipelas — with a sudden and very severe chill, a high temperature, an anxious expression of countenance. Fortunately, however, though ushered in with such severity, the attack is of shorter duration. We have often seen two and once eight recurrences during apparent convalescence, each of shorter duration than the preceding.

But we have found erysipelas involving the face and scalp in patients of advanced years and in old alcoholics, in whom often meningitis or endocarditis has supervened, uniformly fatal. In the same class of fatality are usually the phlegmonous, the gangrenous, the pyemic and the uremic and those in whom the inflammation has spread to the mucous membrane of the throat. Death may occur from the severe toxemia, from the exhaustion of a protracted case, from invasion into and infection of the deeper structures or from complications in other organs. Of recent we saw in consultation the involvement of the throat with a thick membrane, and subsequently death from endocarditis.

As we are writing this paper, we have had six patients in our ward with facial erysipelas. Two were old, one an alcoholic; these three died. The other three are young men, and although their faces are swollen almost to unrecognition and they are tossing about in delirium, they will probably recover. Surely a disease, absolutely preventable could proper precautions be exercised, commanding such a death-rate and such suffering, should demand our earnest consideration and effort at eradication and amelioration.

57 Fort Street West.

Rest and Recreation should not be forgotten in our practice of personal hygiene. It is well enough for the municipality to furnish parks and breathing spaces, but it again becomes the duty of individuals to use them for the purpose for which they were intended. It has been said, and said truthfully, that many people become insane on deserted farm districts because of the very monotony of their existence. On the other hand, many of the so-called cases of "nervous breakdown" are the result of an over-busy city life. The duty of the individual then is to see to it that he has sufficient rest during each of the 24 hours, and that he has a period of rest, commonly spoken of as a vacation, some time during the year. Sleep should be looked after and an average of about 7 hours out of 24 should be had. Not only should sufficient time be given to sleep but the air in the bed-chamber should be as pure and fresh as possible. Open your windows and keep them open all night long.—*Bulletin Detroit Board of Health.*

NOTE CHANGE OF DATE OF ANNUAL MEETING
TO JULY 10 AND 11, 1912

ECLAMPSIA*

JAMES J. LYON, M.D.
Sault Ste. Marie, Mich.

This disease is described by some authors as a "convulsive seizure, attacking a woman, before, after and during labor." While there are others in whom this may show than in the pregnant woman, I will confine this paper to the latter, simply saying that the convulsions of children, and the epileptic state often assume the leading forms of puerperal eclampsia. The derivation of the word, according to Dunglison: ec, the prefix out or from, from the Greek, and lambano, I seize hold of, appears to me to apply more to the convulsions of children than to those now under consideration. The "absolute abolition of consciousness" is necessary to the true eclamptic state, often very indefinite in length, and as often of short duration. Some cases never regain consciousness, and the disease is one where the prognosis must ever be held in reserve, for cases may at first appear mild and later prove delusive and fatal.

The etiology of this disease is doubtful, but albuminuria being so frequent it has become regarded as the leading factor. One thing is almost certain: the kidneys by their inadequate or diseased action are the leading forces, and whether from the albuminuria, uremia or other elements retained in the blood by defective action, has not yet been fully determined. A few years ago we were taught that urea was the product of the kidneys, and now we know it to be generated by the liver, this former idea perhaps allowing us the privilege of attributing to the kidneys more than was due them. We see in eclampsia a direct action of urea by the somnific state induced and protracted, but who of you whose lot has fallen to the care and treatment of an eclamptic has not noticed with sorrow the great diminution in the quantity of urine itself?

Although there often premonitory symptoms such as impaired vision, dizziness or gastric disturbance sometimes seen and oftener not known, the medical man is often suddenly confronted with one of the most trying conditions that can come under his care. He feels that he must work, and work quickly; the friends in the room are anxious to the point of annoyance. In the tremulous but tonic spasms your chloroform is curatively useless, except to relieve the spasm. Sometimes there is not much spasm, only twitching of the muscles of the face or turning up of the eyes till nothing but the white is shown; consciousness is gone, you cannot tell the friends whether ever to return. You send for other medical aid only to find that as a rule it relieves the minds of those around you. If, fortunately, consciousness does return, it may at any time lapse into its former attitude and you simply watch and work.

You use your catheter and are surprised to find there is almost no urine in the bladder. Sometimes you get a little and, in absence of a test-tube, boil it in a big spoon over a lamp; you see it has become almost solid, or at most but little fluid medium seems to remain. In one I saw

* Read before the Chippewa County Medical Society, Oct. 3, 1911.

on boiling it would not flow from the test-tube when turned downward. Albuminuria you say to yourself is the cause of this condition. Think a moment! What else is there in the urine? — every other usual element of other days, but held together by the excess of that coagulative albumin. Not simply is this latter the cause of the effect over which you are laboring, but the want of urinary fluid to dissolve and carry from the brain the urea that is poisoning and producing the comatose state before you.

Particularly have I been led to believe the liver a causative factor in this disease from my own experience and observation. Some years ago my residence was in one of the lowest and marshiest parts of Michigan — fever and ague, later fevers, bilious dysentery and other conditions peculiar to inaction of the liver. At a mill, the houses of which were located in the marsh itself, cases of this kind were by no means so rare as we expect them to be. I well remember the agonies and death there of one woman after an illness of two days. Another, some time later, in a house almost across the way from her whose time was even less, and whose first symptom of ailment was the so-called fit. There was almost no urine to be obtained and what there was was the worst I have seen, turning almost thick when boiled in a test-tube. Her child lived, and to my knowledge at about 5 years of age was hearty and well.

My last case was about 3 miles from that place, but blue flag and cat tails flourished near the house. Another physician of merit was called at the same time, and after partially succeeding in allaying the spasms we concluded to empty the uterus though the term was not full, perhaps about the seventh month, and were successful in bringing away a living child, and a year ago I was informed that she was a fine girl of 10 years. The mother died on the following day without ever regaining consciousness though the spasms had stopped. I could enumerate others but this is sufficient; in all the urine was diminished to but a little.

These conditions have led me to ever ask women by whom I am engaged to let me know when their urine is markedly diminished, and also to attend to a proper and free action of the liver. You ask what shall we do when we find ourselves face to face with this dread disease? In the first place your nearest sheet anchor is chloroform for the spasms and this may be used freely, in quantity merely sufficient to hold them in abeyance. Pilocarpin I believe is recommended very considerably by some and I think theoretically should be excellent to relieve the system of some of the toxins, and particularly of the urea so productive of the comatose state, but I wish here to give a word of caution to those who are not used to giving it: add to each one-quarter or one-sixth grain a $^1/_{100}$ of nitroglycerin or you may have a flagging heart, and sometimes a very anxious patient; but push and push to effect for the skin may do for you what the kidneys cannot. In late years veratrum viride has been held out as of great value; personally I have had no experience with it, and would hesitate to use the doses some are said to have given. In conclusion I will say I do not think there is any iron-clad rule of treatment in this disease other than to liberate the toxins by diaphoresis and by active catharsis, and hold the spasms in abeyance mostly by chloroform; neither do I know another ailment where the practitioner requires a more thorough knowledge of his materia medica from which to draw without hesitancy, and, I may add, a good pocket case of well-selected remedies.

TREATMENT OF ECLAMPSIA BY VAGINAL CESAREAN SECTION*

R. GENUNG LELAND, A.B., M.D.
East Leroy, Mich.

"In the whole range of obstetric practice two diseases have claimed preeminently more victims and brought more sorrow into the human family than all others combined. They are sepsis and eclampsia." It is with these words that Fry has characterized the subject of our discussion, adding, by the way, to a scientific treatise a deeply human note which we as medical men ought never to forget.

Eclampsia is an auto-intoxication having its source in the placenta or fetus and although we must still admit ignorance of its true etiology, we do know that throughout the course of the disease there is more or less profound disturbance of protein metabolism and there is an increase in both the activity of the intracellular ferments and in the coagulability of the blood. Clinical experience has shown that this injurious process tends to increase as pregnancy and labor progress, continuing in some cases even after delivery. Time does not permit of any discussion here of the treatment obtaining in post-partum eclampsia.

As yet we know of no specific therapy. The only question is, as we wait at the bedside of an eclamptic patient, Will she be the gainer by the use of the expectant plan of treatment or by rapid and immediate emptying of the uterus?

Fortunately, it does not fall to the lot of the general practitioner to meet a large number of such cases, hence we must rely on the words of clinicians whose experience is larger and more varied. Let us glance at the following statistics:

Liepman reports from the clinics of Wurzburg, Basel, Halle and Berlin a mortality of 25 or 30 per cent. under the expectant treatment and 2.8 or even 1.8 per cent. after immediate delivery; Zwiefel reports a mortality of 28.5 per cent. under expectant and 11.25 per cent. under immediate delivery; again, Bumm reports a mortality of 30 per cent. with the expectant treatment which was reduced to 2.3 per cent. by immediate delivery; Ferri of Milan has reported a series of cases treated by rapid and immediate delivery in which the mortality was 7 per cent.; Fry had one death in fifteen cases treated by rapid delivery. These figures seem sufficient to convince any one of the superiority of immediate delivery over the expectant medical plan of treatment. Since, then, we are dealing with a condition in which every moment of delay means an increase of poison and hence of danger, it stands to reason that we should not waste valuable time by eliminative treatment while the source of supply of the poison continues. We should not wait for a second convulsion since our patient is at best in no very good condition for an operation and each seizure but increases the severity of the disease. So it becomes necessary for us to seek that operation by which the uterus may be emptied with the minimum amount of shock to the mother and damage to the maternal tissues.

* Read before the Kalamazoo Academy of Medicine, September, 1911.

Manual dilatation of the cervix is probably the most popular and widely used method. When the cervix is soft and yielding so that one or more fingers can be admitted easily, the Harris method does very well. This is usually very successful with multiparæ but not at all so in old primiparæ with rigid cervices or, in fact, in any case where this latter condition prevails. As a rule the Harris method is not well understood and instead of using the snapping motion, after introducing the thumb and finger, the practitioner usually employs a boring motion, exerting pressure upward with the fingers in the shape of a cone. This latter method not only opposes the natural process of dilatation but is most fatiguing even to one with much practice and muscle. In the hands of an expert manual dilatation requires from one to two or three hours; the fingers become numb from pressure and it is necessary to change hands frequently. This, of course, exposes the patient to added danger from below. If too much force is applied, there is danger of tearing or bruising the soft parts. Obviously, a cutting operation is to be chosen as against this in rigid cervices.

Despite the good reports from Bossi and many of his supporters regarding the use of steel dilators, of which the Bossi dilator may be taken as a type, it has been shown by Bardeleben that severe lacerations result in a large proportion of women delivered by this method. Duehrssen repudiates this method entirely. At the last International Congress of Medicine Gauss reported seventy-five cases of eclampsia treated by the Bossi method and his conclusions are that this method should not be employed early in pregnancy when the soft parts are rigid and, therefore, it is not indicated where the soft parts are relaxed, in which event manual dilatation is to be preferred. At the same congress Winter stated that the Bossi method could not be used without resulting lacerations unless the cervical canal was obliterated and the external os as big as a shilling. One can never estimate the amount of pressure being applied to the soft tissues when he is using a steel dilator and, therefore, he is not aware of the beginning of a tear.

Cervical incisions, which were used largely by Duehrssen, for the first in 1890, have not become popular in this country, mainly on account of the danger from hemorrhage and the extension of the incision by tearing, as the head advances through the parturient canal. Moreover, the indications for cervical incisions are limited to instances where, as above, the cervical canal is obliterated and the external os is rigid.

The classical cesarean section has clearly defined limitations in the field of eclampsia. In this condition, as well as in cases not complicated by eclampsia, abdominal cesarean section is indicated wherever the pelvis is contracted or in the presence of irreducible tumors of the soft parts or pelvic bones, or of atresia of the vagina or cervix from scar tissue.

In consideration of the first mentioned indication, that is, contracted pelves, the following statistics have been gathered: The frequency of pelvic contraction in American-born women is estimated at 2 per cent., in foreign-born at 6 per cent. According to Winckle the contractions are sufficiently marked to cause symptoms in but 5 per cent. of cases. Edgar has found contracted pelves in 3.66 per cent. of cases, Williams in 13.1 per cent., Crossen in 7 per cent., Reynolds in 1.13 per cent., Flint (from 10,223 cases), 1.42 per cent., Barnes (London, 38,065 cases), 0.57 per cent.; over Europe the percentage ranges from 0.9 per cent. to 18.3 per cent. The frequency of eclampsia is estimated at

from 0.3 to 3 per cent. of pregnant women. In the absence of any statistics bearing directly on the question it is no more than fair to conclude that the indications for performing abdominal section must necessarily be very infrequent inasmuch as eclampsia combined with contracted pelves cannot occur more than 0.3 to 3 per cent. of, at the most, 18.3 per cent. of all women.

Irreducible tumors of the soft parts are an infrequent complication, especially when we consider only the 0.3 to 3 per cent. of all pregnancies in which they may occur. Hirst has analyzed 13,000 cases of fractures in which 0.8 of 1 per cent. were fractures of the pelvis, thereby reducing the frequency of exostoses and malformation of pelvic bones from this cause to a minimum.

The last indication, atresia of the cervix and vagina, is also a very rare condition complicating eclampsia. Neugebauer has reported about 1,000 and Maher about 200 cases from the literature dealing with pregnancy. It is possible that there is an overlapping of some of these cases and it is not stated whether any of them were complicated by eclampsia.

In 1895 Duehrssen described a new operation, "anterior vaginal hysterotomy." In an address given by him in May, 1906, in this country, he sums up the indications for the operation as follows: "Vaginal cesarean section is indicated when in the case of an imperfectly dilated cervix, which will not permit of dilatation by gentler means, the life of the mother or child is brought into danger." And among the special indications which he mentions eclampsia ranks first.

Although this operation will never entirely supersede manual dilatation in those cases in which the cervix is easily dilatable, yet it seems to be the ideal operation for rapidly evacuating the uterus in eclampsia. Ideal for the following reasons:

First, the operation is comparatively simple and can be done with one assistant. To be sure, it is better to have two but this is not absolutely necessary. (It is understood, of course, that with this operation, the same as with any other, no one should attempt it who does not understand the technic.) Second, the operation and delivery of the child can be done in approximately the same length of time as the abdominal section, varying, of course, with the dexterity of the surgeon and the surrounding conditions, from five to fifteen minutes. Third, the operation may be done with as strict asepsis as any of the vaginal operations and, in fact, with more than many. Duehrssen himself claims it can be done as aseptically as the classical cesarean. Infection is much less likely to occur in a clean-cut incision closely coaptated than where the tissues have been more or less bruised and torn and the resulting ragged edges left without repair. Even though infection may occur in a small percentage of cases, we still have an ideal drainage and the comforting assurance that "we have not invaded the peritoneal cavity." No matter how carefully the examination of an eclamptic patient may be made, there is always danger of introducing infection from the outside and in abdominal section we face the added danger that this may be carried on to the peritoneal cavity at the time of delivery. Fourth, there need necessarily be no more hemorrhage from vaginal section than from abdominal. However, if the hemorrhage is not too severe it merely assists our patient to a still better condition by lowering the blood-pressure. Fifth, a thorough acquaintance with the technic of the operation obviates injuries to the bladder and danger of extension of the incision into the peritoneal cavity. Sixth, the claim

that there is liability of rupture to the uterus during subsequent labors has not been supported by the records. Seventh, the shock from an abdominal section is greater than that resulting from a vaginal operation.

A brief description of the operation might well be given here: After a thorough dilatation of the vagina, the anterior lip of the cervix is seized with a Jacob's volsellum forceps and brought into view at the vulva. A transverse incision long enough to encircle nearly half of the cervix is then made through the mucosa near the fornix. It may be necessary in some cases, in order to secure more room, to make a second incision of the mucosa in the median line, the cut extending forward at right angles to the first. The bladder is then separated from the uterus by blunt dissection and is pushed up out of the way with a sponge or retractor. A Jacob's volsellum forceps is then placed on either side of the median line and the cervix incised as far as necessary, care being taken to make the incision directly in the median line, thus avoiding hemorrhage. If the membranes have not already ruptured they can now be seen protruding through the opening. It is usually advisable, although not always necessary, to incise the posterior lip in a similar manner to the anterior. In case the head is fixed, the child should be delivered by forceps. If the head is still in the floating position, version is preferable. After delivery, the placenta is easily expressed by Credé's method; the posterior lip is sutured first with continuous stitches that extend only to the mucosa. When the anterior lip is sutured the vaginal mucosa is brought down and united to the cervical. For the operation itself, the patient needs no special after-treatment differing from the ordinary obstetric case. Douches are not necessary unless suppuration occurs. The operation once over, medical treatment should be undertaken where needed in order to eliminate the poison more completely.

From 1878, when abdominal cesarean section was first used for eclampsia, until the present time, the mortality of the operation has been high. In 1904 Hammerschlag collected a series of cases of abdominal cesarean section for eclampsia with a mortality of 55 per cent. Twelve per cent. of the patients died of sepsis. Although in clinics the classical cesarean section has been done very successfully, with a mortality as low as 3 to 5 per cent., this does not represent the true state of affairs; Doederlein has found that from a collection of cases from countries in which the reporting of them is compulsory, the mortality from the classical cesarean rises to from 25 to 35 per cent. Compare this with the series of vaginal cesarean section collected by Duehrssen in which the mortality was only 12.7 per cent. Veit had only one death in thirty-three cases; Bumm lost one patient out of forty operated on by vaginal cesarean section.

The classical cesarean seems to offer a somewhat better opportunity for the child than does vaginal cesarean since Friedemann reports a mortality of 36.5 per cent. after the former compared with 56.4 per cent. mortality after the latter. These figures, however, mean very little unless we know at what period of gestation the operation was performed. Providing the operation is done after the period of viability of the child we may say, in general, the quicker it is done after the first convulsion the lower will be the fetal mortality.

We may then conclude from the foregoing:

1. Eclampsia is an auto-intoxication that occurs only during pregnancy, due to

disturbed metabolism, the exact nature of which we do not know.

2. Cessation of pregnancy improves or eliminates the eclamptic condition.

3. The mortality, both maternal and fetal, is lowered by the immediate cessation of pregnancy, therefore an operation to accomplish this should be performed at once.

4. That operation should be employed which involves the least shock to the mother and damage to the maternal tissues. Of course, we aim and hope to save both mother and child but our first and chief thought must always be for the mother and so,

5. While abdominal cesarean section is indicated in cases presenting contracted pelves or in cases where delivery through the birth canal is made otherwise impossible, vaginal cesarean section is the method of choice for rapid evacuation of the uterus in eclampsia.

BIBLIOGRAPHY

1. Duehrssen: The New Era in Obstetrics and the Use of Vaginal Cesarean Section in Contracted Pelves, Beitr. z. Geburtsh. u. Gynäk., xxv, 1.

2. Duehrssen: Technic and Indications for the Vaginal Cesarean Section, Am. Jour. Obst., lix, 511.

3. Duehrssen: Vaginal Cesarean Section, Surg., Gynec. and Obst., iii, 74.

4. Edgar: Practice of Obstetrics: (a) Vaginal Cesarean Section, pp. 1022-1024; (b) Pelvic Deformity, pp. 616-617; (c) Eclampsia, p. 304.

5. Frank and Heimann: The Placental Theory of Eclampsia; Further Experiments with the Complement Fixation Test, Surg., Gynec. and Obst., xii, 451.

6. Fry: The Best Method of Promptly Terminating the First Stage of Labor, with Special Reference to Vaginal Cesarean Section, Am. Jour, Obst., lix, 202.

7. Fry: Vaginal Cesarean Section, Its Indications, Advantages and Technic, Surg., Gynec. and Obst., i, 58.

8. Golberg: Vaginal Cesarean Section in Eclampsia, Zentralbl. f. Gynäk., Dec. 24, 1911.

9. Hirst: Treatment of Eclampsia, Am. Jour. Obst., lxii, 420.

10. Hirst: Text-Book of Obstetrics: (a) Fractures of the Pelvis, p. 501; (b) Pelvic Deformities, p. 445.

11. Humpstone: Vaginal Cesarean Section in the Treatment of Eclampsia, Am. Jour. Obst., lix, 92.

12. Humpstone: Twenty-Five Cesarean Sections with No Fetal or Maternal Mortality, Am. Jour. Obst., lxiii, 799.

13. Kosmak: Report of Four Cases of Eclampsia with Remarks on Their Treatment, Am. Jour. Obst., lxiii, 633.

14. Moran: A Study of Vaginal Cesarean Section, Surg., Gynec. and Obst., iv, 337.

15. Peterson: The Treatment of Eclampsia by Dilatation or Incision of the Cervix, Surg., Gynec. and Obst., xi, 210.

16. Peterson: The Indications for and Technic of Vaginal Cesarean Section in Eclampsia, Jour. Am. Med. Assn., lvi, 1.

17. Plondke: The Treatment of Puerperal Eclampsia, Zentralbl. f. Gynäk., Dec. 24, 1911.

18. Rotter: Vaginal Cesarean Section, Zentralbl. f. Gynäk., Nw. 39, 1907.

19. Sprigg: Vaginal Cesarean Section, with Report of Four Cases, Am. Jour. Obst., lx, 606.

20. Stowe: Indications and Technic of Vaginal Cesarean Section, Surg., Gynec. and Obst., xi, 569.

21. Watson: Treatment of Eclampsia, Surg., Gynec. and Obst., xii, 388.

22. Williams: Text-Book of Obstetrics: (a) Cesarean Section in Contracted Pelves, p. 443; (b) Vaginal Cesarean Section for Eclampsia, pp. 543-544.

23. Zinke: A Brief Analysis of Ninety Cases of Puerperal Eclampsia and a Critical Review of the Treatment of This Disease, Am. Jour. Obst., lxiii, 217.

NOTE CHANGE OF DATE OF ANNUAL MEETING
TO JULY 10 AND 11, 1912

ECTOPIC GESTATION*

I. N. BRAINERD, M.D.
Alma, Mich.

Ectopic gestation is not a new affliction, although its recognition is new. Thirty-one years ago, when I was a medical student, not a word was said about it, and in the obstetric and gynecologic text-books of that day it was not mentioned. Pelvic hematocele was discussed; but no one then dreamed that pelvic hematocele was caused by the rupture of a gravid tube. Thomas was a favorite author in those days. He says in his "Diseases of Women," 1874: "The special sources of the hemorrhage inducing the affection . . . may thus be presented at a glance: (1) rupture of blood-vessels in the pelvis; (2) rupture of pelvic viscera; (3) reflex of blood from the uterus; (4) transudation from blood-vessels." He says: "At times the affection is indicative of a serious internal lesion, rupture of the ovary or tube," but he wholly missed the explanation. The "American System of Obstetrics," by Hirst, in 1888, does not treat of this condition although its companion work, the "American System of Gynecology" by Mann, in the same year, does treat of it. Kelley's monumental work on "Operative Gynecology," 1898, does treat of it. Also Hirst's "Text-Book of Diseases of Women," 1903, and William's "Obstetrics," 1903. So you see how recently this subject has got into the books. In the construction of this paper I have drawn liberally from these works, and from the later works of Montgomery and Ashton, as well as from my own experience.

Tait, in 1883, performed the first laparotomy for the purpose of checking hemorrhage from a ruptured tubal pregnancy. After he had demonstrated the ease with which the procedure could be performed and the surprisingly good results obtained thereby, the operation came into general use.—Williams.

Veit was the first one to make a diagnosis of unruptured tubal pregnancy, in 1883, and Janvrin was the first one in this country, in 1886. My first operation for ruptured tubal pregnancy was done Dec. 13, 1901, for Dr. Bagley.

That conception normally takes place in the fallopian tube is no longer doubted. The spermatozoon swims upstream, against the action of the ciliated endothelium of the tube, until it meets the descending ovum. Then, by a chemotactic force existing between them, the spermatozoon enters the ovum, and the head dissolving therein restores to the ovum the potentiality of evolution which it had before the extrusion of the polar globules.

It takes the egg one week, ordinarily, to traverse the tube; but if hindered in its descent, it may never get into the uterus. Then occurs a tubal gestation. These hindrances are mechanical. Chronic inflammation of the tubal endothelium, with consequent swelling and narrowing of the lumen, may make it impossible for the egg to get down; or a stenosis of the internal ostium may do it; or the pinching of the tube by adhesions. The egg may be overly large, and early fertilized, and its descent delayed until it has acquired so great a size that it cannot pass the ostium internum. This event

* Read at the December, 1911, meeting of the Gratiot County Medical Society.

occurring, there follows a train of most disastrous consequences, once in every 500 pregnancies.

Extra-uterine pregnancies may be classified as tubal, tubo-ovarian, ovarian and abdominal. Abdominal pregnancies are always secondary to other varieties. "It is impossible for an abdominal pregnancy to occur primarily, even admitting that the ovum may become fertilized in the peritoneal cavity, for the reason that the product of conception would at once be destroyed and absorbed by the peritoneum."—Ashton. Ovarian pregnancies are admitted to be possible, but they are very rare. My third case, operated on April 6, 1903, was of this variety. At that time most writers denied the existence of this variety. The tubo-ovarian variety arises when the fimbria is adherent to the ovary, and the fertilized ovum attaches itself very near the fimbria. Then in its development the ovary forms part of the cyst wall. In the tubal variety the ovum may attach in that part of the tube lying within the uterine wall, and is then called interstitial, or it may attach itself in the ampulla or in the isthmus. It is usually found in the ampulla.

From this time onward I shall confine my discussion to tubal pregnancy, and without regard to what part of the tube is involved.

Now, given a case of tubal pregnancy, let us trace its course. The tube becomes slightly hypertrophied, much more vascular, and the endothelium makes an effort to develop a decidua, only slightly successful, however. The uterus enlarges, but less than it would in a normal gestation. It forms a decidua vera. In about half of the cases menstruation ceases, and in the other half it does not. The other symptoms of early pregnancy usually follow. The pregnancy may terminate in a rupture of the tube, in a tubal abortion, in the death of the embryo before the rupture of the tube, or the fetus may continue to live to full term.

The most frequent termination is in the rupture of the tube. This usually occurs between the eighth and twelfth weeks. The growth of the chorionic villi into the wall of the tube weakens it and causes it to rupture at an earlier time than it otherwise would. Lifting, a fall, a blow, straining at stool, copulation, digital examination, etc., may be sufficient cause to precipitate this result. Often no other cause can be ascribed than the distention of the tube, because rupture often occurs when the woman is sleeping quietly in bed. Rupture may take place upward into the peritoneum, downward between the folds of the broad ligament, or into the uterus if the pregnancy be interstitial. The outer third of the tube of Fallopius has no mesosalpinx. Hence rupture through any part of that would be intraperitoneal. Much the most frequent direction of ruption is into the peritoneal cavity. This "is usually followed by death within a few hours unless the bleeding vessels are controlled by an immediate laparotomy."—Ashton. But this does not always happen because the rending of the tube may be gradual, and the hemorrhage moderate, or slight, even, if the embryo and membranes plug up the rent. In such cases the patient revives and bleeds again and again. The fetus usually dies at the time of the first hemorrhage; but it may continue to live in the peritoneal cavity if its attachments within the tube hold. My second case, operated on March 6, 1903, illustrates this fact well. This case was sent to me a hundred miles on a bed. The rupture had taken place five weeks before. No diagnosis had been made. On opening the belly sufficiently to introduce a part of the hand, and loosening the adhesions, out jumped a 4-months fetus, like a "Jack-

in-the-box," alive and kicking. But if the anchorage within the tube be broken up the embryo must die. No placental attachments are ever found on the peritoneum. Hirst dissents from this view.

If the rupture be between the folds of the broad ligament, the hemorrhage will sooner be suppressed because of its confinement within close quarters. The pain, however, is great. If the fetus lives and continues to grow, it will lift up the broad ligament and push aside the pelvic viscera. If the broad ligament bursts under this great strain, the fetus may slip through the rent, and thus become intraperitoneal, while the placenta is extraperitoneal. "As a rule, full term ectopic fetuses are extraperitoneal."—Ashton.

In interstitial pregnancies the fetus may be gradually extruded into the uterus, and if the placental attachment within the tube be not broken up, the gestation may go on to full term. This is a fearful condition, the placenta being up in the tube and the baby born at full term. I have never seen such a case; but should such a case fall into my hands I would, with sterile hand, explore the interior of the uterus; and, finding no placenta there and the funis going up into the tube, I would advise on immediate celiotomy to get that placenta.

By tubal abortion is meant the discharge of the embryo through the abdominal ostium of the tube into the peritoneal space. This termination of the case must take place before the eighth week, because the ostium closes at that time. The hemorrhage in these cases is a variable quantity — sometimes trifling, and sometimes speedily fatal. The fetus always dies in a tubal abortion and if the mother does not die, the fetus will be absorbed.

Sometimes the embryo dies from a hemorrhage into its own membranes. This clot organizes and forms a tubal mole.

It is said that in 6 per cent. of the cases of extra-uterine pregnancies the fetus lives to the end of the term. Unavailing labor then comes on, and the fetus soon dies. This leaves a dead baby within the woman to be disposed of in some way. By the deposit of lime in and about this baby it is converted into a lithopedion; it may be converted into a fat and soapy mass called adipocere; or it may mummify. If this dead fetus escapes infection from the bowel it may be carried indefinitely, but if infection takes place abscess formation will follow. This may break into the vagina, the bowel or the bladder. When I was a half-grown boy I overheard my mother and some other women telling about another neighbor woman who had been passing baby's bones per vaginam for many years. It was a marvel to them and wholly unintelligible to me at that time.

CLINICAL HISTORY

The clinical history of tubal gestation is romantic, and as interesting as a novel. Before the rupture of the tube, the woman usually comes to believe herself pregnant. She is likely to have the mild and indecisive symptoms of early pregnancy, such as a slight feeling of heaviness of the uterus, a feeling of fulness and a hardness of the mammæ after the fourth week, and morning sickness after the sixth week. In about half of the cases menstruation ceases, and in the other half it continues with various modifications. Sometimes the woman misses a period or two, and then bleeds so profusely that she believes she has aborted. The pain suffered often confirms this belief. If the woman or the doctor has inspected the cloths, pieces of decidua may be found, and sometimes a complete uterine cast. Sometimes she drizzles along all of the time. If the case continues to the end of the third month, pigmentation of the

areolæ and of the vulva will be apparent, and the usual deepening of the color of the vagina. Digital examination reveals an enlarged uterus, but not so much enlarged as it would be in a uterine gestation. An enlarged and tender tube will be found. This is a valuable sign. It will be found at a lower level than its normal position because of its own weight; and a falling tube or ovary rotates toward the midline because it is hinged at the horn. The mass will, therefore, be low and near the uterus — often almost behind it. These signs and symptoms are sufficiently distinctive, so that one can make a diagnosis even before rupture as in my fifth case, Feb. 1, 1906. But all of these examinations must be made gently for fear of rupturing the tube.

At about the end of the second month the catastrophe usually comes. At this time the tube bursts and the symptoms of tubal rupture suddenly appear, without any premonitory warning. In some cases, however, the patient may complain for a few days previously of colicky pains and slight pelvic pressure symptoms. The rupture may occur when the patient is in bed or when she is around attending to her daily duties, and in some cases it may follow some unusual or severe form of exertion. In extremely rare cases a rupture or an abortion may occur without producing marked symptoms, and the patient may not be aware of her serious condition.

The patient is suddenly seized with severe pain which is quickly followed by collapse. The pain is felt over the lower abdomen and in the affected side of the pelvis. It is acute, agonizing, excruciating in character, and at times so severe that the patient becomes unconscious at once. Symptoms of shock and collapse rapidly follow the occurrence of pain; the pulse becomes weak and very rapid, or absent altogether; the temperature is subnormal; the respirations are sighing and shallow; the skin is anemic and has a deadly pallor; the eyes are glassy and the pupils dilated; the extremities are cold; the surface of the body is bathed in a clammy perspiration; the face has an anxious, pinched expression; and there is twitching of the facial muscles. Nausea and vomiting are common symptoms, and it is not unusual for delirium and convulsions to occur. If the patient is not unconscious, she may complain of impared vision and of a singing sound in the ears.

The character and severity of the symptoms depend on the situation of the rupture, and the size of the hemorrhage. The symptoms of a tubal abortion resemble those of a tubal rupture, but usually they are less marked and the hemorrhage is not so severe. When the tube ruptures into the peritoneal cavity the hemorrhage is usually profuse and continuous, and the patient generally dies within a few hours unless she is saved by surgical interference. Occasionally, however, the bleeding stops spontaneously, reaction sets in, and the patient either recovers or dies later from a fresh hemorrhage. When the tube ruptures between the folds of the broad ligament, death seldom results from hemorrhage, as the blood is poured out into a confined space, and hence the bleeding is quickly controlled. The tearing apart of the structure of the broad ligament by the blood causes intense suffering, and if the distention is sufficiently great severe pressure symptoms develop.—Ashton.

After rupture a digital examination will disclose excessive tenderness in one or the other side of the pelvis, and a soft fluctuant, or a doughy mass in Douglas' culdesac, or down in the folds of the broad ligament.

If the case gets along into the second half of term we shall find that the fetal heart-sounds are more easily heard, and the mother will feel the fetal movements more plainly because the fetus is nearer the surface. Menstruation may be present or absent; and sometimes there will be a discharge of decidual débris throughout the whole term. The shape of the abdomen will be asymmetric. False labor pains will come on at the end of term, and the fetus will soon die.

In the majority of cases the fetus is poorly nourished, ill developed, undersized and often

deformed, although at times it may be physically perfect and apparently healthy. Hydrocephalus, spina bifida, club-foot and visceral displacements are common. If the pregnancy goes to term the child usually dies at the time of its removal, and even if it survives the operation, death usually occurs within a few days or weeks.—Ashton.

The diagnosis will be made from the subjective and objective symptoms as related above. The history will usually show that the woman has been sterile for some years — sometimes for many years.

TREATMENT

As soon as an unruptured extra-uterine pregnancy is positively diagnosed, its immediate removal by laparotomy is urgently indicated, since rupture may occur at any time, and the patient die from hemorrhage before operative aid can be obtained. The importance of immediate operation cannot be too strongly emphasized, and all methods of treatment which aim at destroying the fetus and thus terminating pregnancy without operation are absolutely unjustifiable. This applies not only to the use of electricity but also to the injections of various poisonous substances into the gestation sac. Even when such procedures are successful, the danger to the mother is by no means at an end, since rupture sometimes takes place after the death of the fetus, and even if this accident does not occur, the retention of the products of conception renders the tube a useless organ.—Williams.

Ashton says:

The treatment of ectopic gestation is operative under all circumstances and conditions, and our sole object in view must always be the safety of the mother, as the child has no claim whatever to be considered even in those very rare cases in which gestation continues until viability is reached. The dangers, under these conditions, through which the patient must necessarily pass overwhelm absolutely any argument that may be advanced in favor of the life of the fetus, which . . . is worth but little on account of its low vitality and defective development, as well as the practical certainty of its death early in infancy.

From this view Montgomery dissents in this language:

Experience . . . has disclosed that the extra-uterine fetus may be well-developed, and when it is evident that the mother can be saved only by operative procedure, it seems cowardice that this should not be employed at such a stage as will give the other being an opportunity for continued existence.

At the time of rupture or abortion the indication is to operate in every case without unnecessary delay, whether the tube has ruptured into the peritoneal cavity or between the folds of the broad ligament. We must not wait for reaction from collapse or shock to set in before operating, as the patient may perish in the meantime from loss of blood. I am well aware of the advantages to be gained by not operating during collapse if it can be avoided, but we must remember that the case is one of internal hemorrhage, and hence the dangers of delay offset all other considerations; besides, it is unwise to stimulate the patient by saline injections and other means until everything is ready to open the abdomen, for the reason that under these circumstances the hemorrhage is likely to start again with renewed vigor and force.—Ashton.

Prior to the end of the fourth month the entire sac may usually be extirpated without causing uncontrollable hemorrhage, and consequently the placental circulation, in cases in which the fetus is living, does not materially complicate the operation; but after the fourth month of gestation the operative technic depends on whether the fetus is living or dead. While the fetus is alive it is almost impossible to remove the placenta without causing uncontrollable hemorrhage. . . . When, however, the fetus dies, the placental circulation gradually becomes obliterated by the formation of thrombi, and at the end of one or two weeks the vessels are completely obliterated. . . . In three or four weeks from this time the thrombi become thoroughly organized, and consequently there is but little, if any, danger of hemorrhage when the placenta is separated from its attachments at the time of operation. —Ashton.

But "the many dangers incident to the continuation of an abdominal gestation make it unadvisable to wait until the fetus dies at term and the placental circulation becomes obliterated."—Ashton. Hence, operate during the life of the child, open

up the sac, clean it out, stuff it with gauze, put in a large drainage tube, and stitch the edges of the sac to the skin, leaving the placenta to disintegrate and slough away.

A freshly ruptured tubal pregnancy should not be attacked through the vagina, for the reason that the procedure is often more difficult than a laparotomy, and affords but a limited view of the field of operation, while there is always a possibility that it cannot be completed by the vaginal route, and that an eventual resort to laparotomy will become necessary.—Williams.

In concluding, allow me to refer to by own cases. I have done twelve operations for ectopic gestation. My first was done Dec. 13, 1901, for Dr. Bagley. My second was done March 6, 1903, for myself. My third was done April 6, 1903, for Dr. King of Shepard. My fourth was done Dec. 25, 1905, for Dr. Gardner. My fifth was done Feb. 1, 1906, for Dr. Gardner. My sixth was done Feb. 24, 1906, for Dr. Sayers of Shepard. My seventh was done Dec. 26, 1906, for Dr. Weller. My eighth was done Aug. 6, 1907, for Dr. Gardner. My ninth was done March 26, 1911, for Dr. Hubbard of Vestaburg. My tenth was done Sept. 30, 1911, for Dr. Graham. My eleventh was done Oct. 25, 1911, for Dr. Lamb. My twelfth was done Nov. 17, 1911, for Dr. Hubbard. My first, fourth, seventh and tenth were fearfully bloody. From these I have learned that the peritoneum will take care of much aseptic blood. Its absorption will always produce some pyrexia from the thermogenic substance in it. My second case demonstrated that the fetus may continue to live after the rupture of the tube, if the placental attachment be not disturbed. My third case proved to my mind that an ovarian gestation is possible by the egg being fertilized while yet in the graafian follicle. This experience came at a time when ovarian gestation was generally denied. My fifth case was diagnosed before rupture. My sixth case had just returned from a visit in the south part of the state. Her friends knew not of her return. The train took her to Shepard. From here she got a ride of 6 or 8 miles toward home. From this place she walked about 3 miles further to her home. In that same night her tube burst. My eighth case had ruptured before I saw it. We brought her in. A further hemorrhage occurred on the road, but she survived. My ninth case was a bilateral tubal pregnancy, and both tubes ruptured. This was a rare case. I can find no parallel case. Multiple tubal pregnancies have been recorded, but not just like this bilateral, and both ruptured. Williams says: "In rare instances twin pregnancy has been observed, the embryos being sometimes found in the same tube, while in other cases there was a fetus in each tube, both showing the same development. Sanger and Kruser have reported cases of triplet tubal pregnancy." My eleventh case came from Detroit. Her tube had ruptured sixteen days before operation, and she had general peritonitis, and died the next day. This is the only death in my list. My twelfth case had nothing unusual about it. Eleven of these cases were tubal, all ampullar to the best of my present knowledge and belief, and all had ruptured into the peritoneal space.

NOTE CHANGE OF DATE OF ANNUAL MEETING
TO JULY 10 AND 11, 1912

The Journal of the Michigan State Medical Society

Published under direction of the Council.

PUBLICATION COMMITTEE:

A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
W. J. DuBOIS, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek. (Ex-Officio)

EDITOR.

WILFRID HAUGHEY, Battle Creek.

EDITORIAL COLLABORATORS:

J. V. White, Detroit, 1st District.
George R. Pray, Jackson, 2d District.
....., 3d District.
C. E. Boys, Kalamazoo, 4th District.
T. De Witt Gordon, Grand Rapids, 5th District.
C. B. Burr, Flint, 6th District.
Daniel Conboy, Bad Axe, 7th District.
B. B. Rowe, Saginaw, 8th District.
Robert E. Wells, Traverse City, 9th District.
F. E. Ruggles, Bay City, 10th District.
V. A. Chapman, Muskegon, 11th District.
E. H. Webster, Sault Ste. Marie, 12th District.
C. M. Williams, Alpena, 13th District.
Reuben Peterson, Ann Arbor, 14th District.

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A.M., M.D., Editor, 24 West Main Street, Battle Creek, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

Subscription Price $2.00 per Year, in Advance.

MAY

EDITORIAL

CHANGE OF DATE OF ANNUAL MEETING

Owing to local conditions in Muskegon (the opening of summer hotels and conflicting dates), it has been necessary to change the date of the annual meeting of the Michigan State Medical Society to July 10 and 11, 1912. At this later date the weather will probably be more settled and more pleasant and there will be absolutely no question about accommodations, for the summer hotels will be open and can accommodate over 1,000 guests.

Elaborate plans are being made for the entertainment of the Society and all should make especial effort to be present. In this number will be found the preliminary program. The final and official program will appear later. Many valuable papers are promised and the scientific program will compare favorably with any the Society has ever had.

THE JOURNAL A FORUM

In March an editorial of vital importance to every physician in Michigan appeared in *The Journal of the American Medical Association:* "What's the Matter with Michigan?" We copied this editorial on page 258 of our April number and sent letters to a number of physicians throughout the state asking for comments. We would be pleased to print the views of any of our members on this subject.

We wish our members to feel free to discuss any subject of interest to the profession through our pages, the only restrictions being that discussions be not too long, that they be by members of the Society, and that they be signed. We feel that The Journal will be serving its best purpose in thus furnishing a forum for general discussions by our members.

A NEW FEDERATION OF STATE MEDICAL LICENSING BOARDS

A number of years ago a wave of medical reorganization and medical legislation swept over the country. In 1899 Michigan adopted a medical practice law which, with various amendments, is in force to-day. At that time Michigan established a state board of registration in medicine. Other states have established such boards. For a short time each board worked independently but soon the advantages of conference and organization was appreciated and two federations of examining and licensing boards were organized thus duplicating the work of each other

and dividing the strength and influence which would naturally be the result of one strong federation. At the time of the eighth annual conference of the American Medical Association on medical education, medical legislation and public health, the American and National federations of state medical licensing boards combined and adopted a new constitution and by-laws. The advantages of federating these two boards are apparent.

ETHICS

V. HANG TOGETHER

Recently the editor of the *Delaware State Medical Journal* has made a survey of the financial condition of the medical profession of his state. The editor of *The Journal of the South Carolina Medical Association* is now engaged in a similar study. These studies show a low average income of physicians. They show an enormous amount of work for low fees with a large percentage of uncollected and uncollectable accounts (33 per cent. in Delaware.

This condition of low rate of compensation is one chargeable largely to the profession itself. It should be a matter of the moral and ethical life of a physician never to underbid another, but to so regulate his fees and his practice that whoever in the future treats one of his patients may readily charge and receive a fair compensation. The members of the bar do this.

The medical profession get together in their cities and county districts and establish fee bills to which all subscribe. Do they all charge at least the minimum rate of these fee bills? Last month we referred to the low rate of compensation of medical men engaged in certain classes of lodge and contract practice. At Jackson in 1906 at the meeting of the Michigan State Medical Society resolutions[1] were adopted by the society to the effect that the minimum fee for life insurance examinations should be $5.

To determine what is being paid for insurance examinations in Michigan the editor addressed a communication to each insurance company[2] listed in the report of the insurance commissioner for 1911, asking what rate they pay their medical examiners. Twenty-three companies which are listed in another column[3] pay the flat $5 rate, out of sixty-two doing business in Michigan.

Life insurance companies maintain a bureau to which each company may go when looking for information regarding either risks or medical examiners. The medical examiner who signs his name to an application stakes his reputation that the findings as reported are true, and that the applicant will probably live out his expectancy. This application is placed on file and remains there as the recommendation of the physician during the life of the policy. The examination required is not alone to determine the present condition of the applicant, but to determine his probable expectancy of life.

Of all the insurance companies which did business in Michigan in 1910, less than one-tenth the amount paid for commissions to agents was paid for medical examination fees, inspection of risks, and all other expenses chargeable to that department of the company. Is this a sufficient compensation to the medical profession, on whose trained judgment the very lives of these companies depend?

It would be possible to secure the flat $5 rate from all companies in Michigan if the medical profession would stand together the way they have done in other states. In Kentucky and Tennessee especial interest has been kept up until at

1. JOURNAL M. S. M. S., August, 1906; also editorial, February, 1911.

2. Except where the editor personally knew the rate.

3. See page 321.

present very few companies are doing business in either of these states which do not pay the $5 rate. Some companies, we are informed, are paying $5 in these states and paying $3 in other states. We are also informed that the state agent of a certain life insurance company with headquarters in the East found it necessary a few years ago to himself pay $2 to the examiners in one of our great western states because he could not find competent men who would make the examinations for the $3 paid by the company.

Cannot Michigan do the same as Kentucky and other states?

THE COUNCIL ON PHARMACY AND CHEMISTRY

The Council on Pharmacy and Chemistry of the American Medical Association is composed of scientists who are giving freely of their time and energy for the betterment of the practice of medicine. They are honestly endeavoring to give us a true and impartial view of the ethical stand of the countless proprietary preparations offered for our therapeutic use.

Scarcely a month passes but the Council is vigorously arraigned by some of the so-called "independent" journals. Some have one criticism, and some have another; either the rules are too stringent, too arbitrary, good preparations are kept out unjustly, or some other fault is found; but the burden of all seems to be that "the individual physician should be the judge of what specialties are worthy of his use." The responsibility of the editor (who has especial advantages in determining the merits of these preparations) ceases when he has secured the ad and placed it before his readers — without vouching in any way for its worthiness or the truth of its claims!

To judge from the flood of rebuff and criticism the Council has been a failure — but has it? Compare the advertising pages of any of the "independent" journals of seven years ago (when the Council began its work), and the same journals to-day. In almost every case we venture there has been a noticeable elevation of the advertising tone — a cleaning up. In a criticism of the Council *American Medicine*[1] admits: "Vast improvement has been made in every "worth while" independent medical journal, and the whole movement is upward and forward." Such palpably undesirable ads as "Duffy's Malt Whisky" and "Antikamnia" have been dropped by most journals.

But if this partial cleaning up of medical advertising were all the result of the work of the Council the efforts would have been repaid. There are a considerable number (eighteen) of medical journals that are strictly following the Council in their advertising pages:

The Journal of the American Medical Association.

Southern Medical Journal.

Cleveland Medical Journal.

Surgery, Gynecology and Obstetrics.

Colorado Medicine.

California State Journal of Medicine.

Journal of the Indiana State Medical Association.

Illinois Medical Journal.

Journal of the Iowa State Medical Society (no advertising at present).

Kentucky Medical Journal.

Bulletin of the Manila Medical Society.

The Journal of the Michigan State Medical Society.

Bulletin of the Medical and Chirurgical Faculty of Maryland.

New York State Journal of Medicine.

Journal of the Tennessee State Medical Association.

Texas State Journal of Medicine.

Military Surgeon.

---

1. American Medicine, January, 1912, p. 12.

Bulletin of the American Academy of Medicine.

Many of these, it is true, are "official" or "organization" journals, but they are nevertheless medical journals and depend to nearly if not as great an extent on their advertising for their support as do the "independents." Besides these journals — and a goodly number they are to come into the fold in seven short years — several others are essentially clean, erring in the instance of only one ad — *Old Dominion Journal of Medicine and Surgery,* carrying Valentine's Meat Juice; *Delaware State Medical Journal; Journal of the Medical Society of New Jersey* and *Northwest Medicine,* which, strange to say, offend with the same ad—Glycothymoline.

Verily the work of the Council has been far-reaching.

IN MEMORIAM

Dr. E. Nelson Heysett, Rush Medical College, 1890, of Baldwin, Mich., a member of the Osceola County and Michigan State Medical societies, died in Chicago, March 18, following an operation for appendicitis.

Dr. John M. Gallery, University of Michigan, 1883, died at his home in Eaton Rapids, February 5, aged 54.

Dr. Neil McLure, University of Michigan, 1878, died at his home in Marlette, January 28.

Dr. Samuel Catlin, Yale University, 1851, an honorary member of the Michigan State Medical Society, died at his home in Tecumseh, March 15, aged 85.

Dr. Edwin S. Ely, Hering Medical College, Chicago, 1900, a member of the Michigan State Medical Society, died at his home in Bay City, March 2, from nephritis, aged 44.

Dresser B. Vincent (license, Mich., 1900, thirteen years of practice), died at his home in Coldwater, February 25, from senile debility, aged 85.

Dr. Albert S. Wilson, University of Michigan, 1894, of Bellevue, died April 4, after an illness of several months.

Dr. Henry O. Walker was taken sick with pneumonia, March 26, and died April 5. He was born in Leesville, a suburb of Detroit, in 1843. He received his education in the schools of Detroit and at Albion College. He studied medicine

Henry O. Walker, M.D., President, 1894

at the University of Michigan, and Bellevue Medical College, New York, where he graduated in 1867. He was associated with the late Dr. E. W. Jenks for some years. He became a member of the faculty of the Detroit College of Medicine very early in its history and occupied different teaching positions during its growth. He taught anatomy and surgery mostly. He occupied the position of secretary of the board of trustees and faculty for a number

of years. He was honored by the profession at large many times by election to various posts of honor, and was president of the Michigan State Medical Society in 1894.

Dr. Walker's career was principally a surgical one, as we all know. He was not only an energetic surgeon, but a successful one. His work was marked by the exercise of courage, judgment and conscientiousness. An operator without theatrical display, but bold and energetic in emergency. Conservative and precise in the face of danger, and endowed with a manhood which never shirked responsibility, he was ever solicitous of consequences, and therefore always a safe custodian of his patient. He was always ready to advance with the changes incident to the development and evolution of surgical science and art; but not a faddist who would abandon experience to chase chimerical ideas because they bore the label of science. Never emotional, his ideas and work came from the output of a calm, thinking machine. It is needless for me to call attention to our colleague's professional achievements with which we are all acquainted and of which we are proud.

As a teacher he was very successful, as the numerous graduates of the Detroit College of Medicine will willingly testify. He taught in several different departments from time to time, and always successfully. His teaching of anatomy and surgery was particularly efficient, because he managed to interest the pupils all the time, and with a peculiarly rugged force implanted in his hearer's mind the salient and practical points of the subject — not by means of eloquent flights of language, but by a sturdy manner of emphasis which was peculiarly his own.

As secretary of the faculty of the college he proved to be little short of a genius. His immense capacity for work, for the grasping of details and the evolution of them from out his active mind, as chunks of common sense, was certainly marvelous. A medical friend of mine one day said: "I understand Dr. Walker runs your college." I replied: "Yes, I guess he does; we depend on him for everything excepting telling us what and how to teach." Certainly his enthusiasm, energy and common sense did much toward making the college a success.

Speaking of our colleague as an honored member of our profession, as a friend, and as a man, I would state that he was known and respected throughout the profession of our country for his honorable standing, his ability and his work, as well as for his generous, ardent and persistent efforts in behalf of the medical profession.

He was an honest and honorable man! What greater tribute can be paid than this, to our departed colleague, especially in an epoch like the present of dissimulation and mammonism, when the ethics involved in the broad principles of the brotherhood of man as preached by Jesus Christ and the founders of Judaism are ignored for the scintillating shrine of Mammon. I say again, what greater tribute can we pay any person than to declare he was an honest and an honorable man! and certainly Dr. Walker was. He was truthful, honest, benevolent, virtuous, and never afraid to die! As an illustration of his honesty let me briefly relate the following incident: Dr. Walker had been induced by a promoter to invest in and boost a business scheme, and had been induced to influence some of his friends to join. In course of time, and rather a short time, too, the company went the way of all fictitious affairs, leaving its members with their experience only. Now, what did our noble colleague do? Avail himself of the technicality of the law, get out and condone with his acquaintances? No, he took the

full responsibility (which he need not legally have done), paid the debts amounting to several thousand dollars and closed the concern. So quietly was it done that but few knew it.

Now, when speaking of our colleague, as a friend, I almost falter. Dr. Walker and I were close friends for many years. Our interests were identical in many ways through our college and hospital associations. I think outside of his family few knew him better than I did. While he was always reasonably aggressive, and therefore a splendid fighting partner, he never chose to be belligerent excepting for the support of a principle. He was always a frank, true, gentle friend. He was ready to make any necessary sacrifice for any cause in which he was engaged. He was always just, benevolent and charitable to his medical fellows and to his patients.

Impatient of slowness in the course of events, but at the same time reasonable, his sometimes brusque manner and apparent impetuosity were natural but never intended to be offensive, for he had a warm, kind heart back of his expressions. He and I have often had decided differences of opinion and controversies, but never with the slightest feeling of envy, malice or jealousy, for he was full of tolerance, justice and good nature, above everything. His life as a citizen, as well as a member of our profession, has shed a beneficent influence throughout his whole environment, and, moreover, will live through all time to shed its luster on his contemporaries and successors. He was never superstitious; he lived the life of a true man, and died without fear of death. And to say farewell to this beloved friend and noble character, to see him go to the sepulchre of eternal rest, spreads a pall of melancholy over me that is inexpressible. How I shall miss him! Always conscious of the lonely spot in life's path filled only by the memory of this dear, good friend, and at last to say farewell constitutes a pathetic epigram better expressed by the lines of Hood:

"Farewell! Farewell! It is an awful word
When that the quick do speak it to the dead:
For though, 'tis brief upon the speaker's lips,
'Tis more than death can answer to, and hath
No living echo on the living ear."

ERNEST L. SHURLY.

H. O. WALKER, M.D.

One by one we must all fall by the hand of Death; one by one we must all pay the price. The price of Life is Death, and yet, death is nothing more than the bursting forth into the fullness of Eternal Life of the fragrant rose-buds of Humanity. Life is a great school of discipline, and fits us for the larger and more complete living in the Great Beyond.

And so, to-night, somewhere far out in the distant blue among the stars, unfettered by the laws of Time and Space, our friend and brother is living the larger and more complete life, and has heard Him say "Come up higher and behold my glory." E. T. ABRAMS.

SOCIETY NEWS

ALPENA COUNTY MEDICAL SOCIETY

Drs. Bertram and Komoracki entertained the physicians at dinner at the Alpena House, February 19. The subject for discussion that proved of most value to the society was appendicitis. Dr. F. J. McDaniels had prepared an excellent paper on "Acute Perforative Appendicitis." The fourteen doctors present entered into an animated discussion of the subject, which resulted in a general agreement as to the method of treatment. The use of the hot poultice was generally condemned in all cases of acute inflammation in the abdomen, as hastening the formation of pus. The doctor out-

lined a method of non-operative treatment during the acute stage which had proved to be the most effective.

A program committee consisting of Drs. Williams, Cameron and Bonneville was appointed to arrange the programs for the regular meetings. This committee is planning to have some of the best medical talent of the state appear before the Society.

Wonderfully effective work has been done in Alpena in times past by our local physicians without a hospital. No doubt the Mayos were doing good surgery in Rochester, Minn., before the railroad accident that necessitated a hospital there; but no one ever heard of them. A hospital gave them an opportunity to make their work known. Now the little town of 5,000 is the center of the surgical world. Many in this town have been saved from an untimely grave by the prompt action of their physicians, but only a few have heard of it. In a hospital good work is recognized and appreciated by all the inmates and attendants, and the doctor receives the benefit of the improved reputation. Constant association with each other will give each the benefit of the others' experience, and redound to the good of all concerned.

C. M. Williams, Secretary.

The Alpena County Medical Society held its regular meeting March 21. Dr. J. A. MacMillan of Detroit and Dr. L. C. Kent of Onaway were the guests of honor. Dr. MacMillan held a surgical clinic at the office of Dr. D. A. Cameron at which he beautifully demonstrated his operation for hernia, and appendicitis. The Alpena Society considers these clinics, which occur every three months, of great practical value. They hope to have for the June meeting a skin clinic, conducted by a specialist in skin diseases.

The event of the meeting was a banquet at the Alpena House, given by Drs. A. E. Bonnerville and George Secrist to the Medical Society and guests. From the time the orchestra rendered its first selection at 6 o'clock till the members reluctantly adjourned at near 11, the meeting was a great success.

Following an elaborate dinner in the dining-room, the members adjourned to the parlors, where an interesting program was carried out. J. A. MacMillan gave an interesting address on "The Necessity of Operation in Hernia." The doctor showed that only 10 per cent. of the ruptured ever submit to the radical cure, and that by reason of wearing trusses and other palliative measures their earning capacity is greatly decreased. Likewise they are always liable to strangulation of the hernia. Over 90 per cent. of these operated on never have a return of the rupture. The doctor thought the great reason for the refusal of operation was the wholesome fear of a general anesthetic, and a lack of knowledge as to the benefits to be derived from the operation.

Dr. L. C. Kent, of Onaway, gave an address on the "Management of Typhoid Fever." It was an excellent résumé of the subject, and brought out a spirited discussion from all the members present.

One of the features of our meetings is the general interest in the papers. The members make a study of the subjects on the program, and are thus prepared to properly discuss them. Nor do we have any trouble in securing papers themselves. A program committee of Drs. Williams, Bonnerville and Cameron assign the subjects, and it is expected that every member will read a paper during the year. Every three months it is expected to have a clinic with an outside physician as demonstrator.

Our Society has been much helped by reason of having the new thirteenth district organized. Our councilor, Frank C. Witter, keeps us enthused by letter and by his presence occasionally, and we much enjoy the new arrangement.

C. M. Williams, Secretary.

BAY COUNTY MEDICAL SOCIETY

Since the first of January the Society has adopted a new plan of conducting meetings. Instead of original papers by the members, there have been reviews of important articles in various leading medical journals, followed by a general discussion. Meetings have been held weekly, and the attendance has been fully up to the average of previous months. In March, four meetings were held with an average attendance of fourteen. Three reviews are usually presented, which requires that each member spend considerable time in considering and getting before the Society in the fewest words possible the main points of the paper. This in itself is good practice.

At the March business meeting, it was voted that the adoption of by-laws be a special order of business for the April business meeting.

Since incorporation, a new set of by-laws is necessary, and it is hoped a large number will be present.

H. W. BRADLY, Secretary.

CALHOUN COUNTY MEDICAL COUNTY

At the regular meeting of the Calhoun County Medical Society held April 2, 1912, at Battle Creek, Dr. Hugo A. Freund, of Detroit, read a very interesting and instructive paper on "Clinical and Instrumental Methods of Estimating the Efficiency of the Heart." He paid especial attention to estimating the efficiency of the heart, rather than the heart sounds, and discussed the various newer methods, especially the electro-cardiograph. Dr. M. A. Mortensen of Battle Creek read a paper on "Prophylaxis and Management of Cardiovascular Conditions," recording a plea for the early recognition of cardiovascular conditions and the institution of the proper treatment so that the later severe manifestations may be avoided. These two papers will appear in an early number of THE JOURNAL.

R. C. STONE, Secretary.

GENESEE COUNTY MEDICAL SOCIETY

Special meeting of the Genesee County Medical Society was held April 2, 1912. Attendance 26.

It was moved and supported that the Society should avail itself of the opportunity of having one of the lectures given under the auspices of the Health and Public Instruction Department of the A. M. A.

Drs. Manwaring and Cook were appointed as a committee to find out the feeling of the School Board in relation to the appointment of physicians as medical inspectors of school children.

Dr. E. C. Rumer read a paper on Salvarsan. After reviewing the literature somewhat pertaining to the use of Arsenic in the treatment of syphilis he gave in detail Ehrlich's reasoning and experiments with organic preparations of arsenic culminating in his desires and hopes of attaining *sterilisans magna* in the treatment of syphilis by the single injection of an adequate non-toxic dose of "606." He failed to attain this end in all cases and found it impossible to eliminate at the present time the use of mercury and the iodids in the treatment of this disease. To justify the early enthusiasm of its users he cited the brilliant results obtained by Neisser whose extensive use of the preparation qualifies him as an authority, and compared its specific action in the treatment of syphilis with the specific action of quinin in the treatment of malaria.

The paper was a scientific résumé of what is known of salvarsan up to the present time and showed a great amount of study in its preparation.

Dr. Don Knapp read an interesting paper on "Typhoid Vaccination."

C. P. CLARK, Secretary.

GRATIOT COUNTY MEDICAL SOCIETY

At a meeting of the Gratiot County Medical Society March 21, 1912, the following resolution, as suggested by the Newaygo County Medical Society, was adopted:

Resolved, That the State Board of Health be asked to make the Wassermann test for syphilis gratuitously the same as the Widal test is now made.

Dr. I. N. Brainerd was chosen delegate and Dr. E. M. Highfield, alternate delegate, to the State Society meeting in Muskegon.

E. M. HIGHFIELD, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

Vaccination is a timely topic. Following up the suggestions of the president, Dr. Clark, at the last meeting, that all members observe their cases closely and report, we are asking that all contribute reports on work done up until now. It is especially desired that full details may be had of cases which have had complications, that there may be a common understanding of how to avoid them, and to know how many actually occur.

An innovation, which we hope will become a permanent practice, has been introduced in programs at the suggestion of the Library Committee, namely, that one member be appointed to scan the journals in the library, to give the titles of a few of the most important articles, and a very brief summary of contents. It is hoped that this will both stimulate a use of the library and also help to call our attention to articles we may not have read. Exhaustive reports, however, are not to be given.

The program for the March 12 meeting was:

1. Facial Deformities — Their Cause and Effect. Dr. S. J. Lewis, Kalamazoo.
2. Fever — Its Nature and Significance. Dr. Victor C. Vaughn, Ann Arbor.

C. E. Boys, Secretary.

The plan of having some member of the Academy report briefly on important articles found in current magazines in the library was inaugurated at the March 26th meeting, Dr. A. W. Crane giving the report.

Informal discussion was engaged in by the membership on the subject of vaccination, with especial reference to the complications. In over 3,000 vaccinations in Kalamazoo, members were unable to find any authentic reports of serious harm due to vaccination.

Two very excellent papers were given, one by Dr. A. W. Blain, of Detroit, on the subject "The Cancer Problem," and one by Dr. D. J. Levy, also of Detroit, on the subject, "Simple Methods in Infant Feeding."

Fifty Academy members and invited guests assembled at the Burdick House on the evening of March 26 to do honor to Dr. Adolph Hochstein. This was the first event of its kind in the history of the society. Many tributes were paid the doctor for his high ideals of practice and his interest in medical society work, his fairness to other members of the profession, his interest in the public welfare, and his courteous bearing toward all.

After a six-course banquet had been served by the management, the president, Dr. O. H. Clark, introduced Dr. George D. Carnes, of South Haven, as toastmaster for the occasion.

C. E. Boys, Secretary.

LENAWEE COUNTY MEDICAL SOCIETY

The April meeting of the Lenawee County Medical Society was well attended and all took an active part in the discussions. Dr. Sutton of Clayton made a good quiz master. The next quiz master is Dr. C. Kirkpatrick of Adrian. Come out and hear him give his paper on "Graft." Bring your list of "Dead Beats" to the Society for there is something doing.

I. L. Spalding, Secretary.

MUSKEGON-OCEANA COUNTY MEDICAL SOCIETY

Regular meeting of the Muskegon-Oceana County Medical Society was held at the residence of Dr. Jacob Oosting, Friday evening, March 8. Members present: Drs. George S. Williams, John VanderLaan, F. W. Garber, R. G. Olson, J. T. Cramer, W. P. Gamber, W. A. Campbell, Jacob Oosting, F. B. Marshall and V. A. Chapman.

The minutes of the last meeting were read and approved as corrected.

The committee regarding resolutions on the death of Dr. J. G. Jackson reported through its chairman, Dr. W. A. Campbell, and presented the following letter of sympathy for the widow of the late Dr. Jackson:

"We, the members of the Muskegon-Oceana County Medical Society, desire to express hereby our most sincere sympathy for the loss of your husband, the late Dr. James G. Jackson. We wish also to express our regard and our high appreciation of his merits as a physician, as a citizen and as a man. In the death of Dr. Jackson we feel that the medical profession has lost an able, progressive and kindly member from its ranks, and the community a valuable citizen and a good man. With regards and best wishes for you and yours,

"Very truly,
"William A. Campbell,
"Jacob Oosting,
"A. A. Smith,
"Committee."

It was moved, seconded and carried that the report made be accepted and that a copy of the resolution be spread on the minutes of this meeting and a copy also forwarded to the widow of Dr. Jackson, and to The Journal of the Michigan State Medical Society.

The committee regarding the holding of a public meeting to be addressed by some speaker from out of the state as arranged by the American Medical Association reported that the Woman's Club Building could be obtained free of charge for the holding of this lecture, and that the Bureau of Social Service would aid on expenses to the amount of $10, providing that the subject be on that of "Tuberculosis."

It was moved by Dr. Marshall, seconded by Dr. Gamber, that the secretary be instructed

to request the American Medical Association to allot a speaker for a meeting of this kind.

The report of the committee was accepted and the committee continued for a further report on the same matter.

A communication was read from Dr. C. T. Eckerman requesting that his name be dropped from the membership of this Society. Dr. Eckerman's request was granted.

Dr. Hotvedt introduced the matter of the Vi-ava active campaign conducted by the Vi-ava treatment promoters and suggested that something be done by this Society in the way of enlightening the people as to the true fraudulent character of this Vi-ava treatment. It was moved by Dr. VanderLaan, seconded by Dr. Campbell, that the matter be placed in the hands of Dr. Hotvedt and the secretary for investigation.

A communication was read from the secretary of the American Medical Association explaining the Owen bill. Dr. Campbell moved and Dr. Marshall seconded that this Society approves of the Owen bill, and that the secretary be instructed to write to the Hon. J. C. McLaughlin requesting his earnest support of the measure. Carried.

Dr. Hotvedt gave a talk on "Bursa and Bursitis of the Knee." The discussion was opened by Dr. Marshall followed by Drs. Campbell, Gamber, Garber and others.

After luncheon the meeting adjourned.

V. A. Chapman, Secretary.

WAYNE COUNTY MEDICAL SOCIETY

At the meeting of the Medical Section on March 11, Dr. C. E. Simpson read a paper on "Chronic Appendicitis and Indigestion."

Dr. James Cleland, Jr., and Dr. R. L. Clark presided as chairman and secretary.

Eighty-two members were present.

Chronic Appendicitis and Indigestion

By C. E. Simpson

Chronic appendicitis as a cause of digestive troubles has come to be recognized comparatively recently. Ewald called attention to the relation between the two in 1899. In 1910 Moynihan, Paterson, Fenwick and others in England again brought the subject to the front, and since then there have been many reports of indigestion which have been entirely relieved by the removal of a chronically diseased appendix.

There is no characteristic type of indigestion. Often it simulates gastric ulcer closely, even to the vomiting of blood. In other instances there is a feeling of fulness after eating, eructations of gas, occasionally vomiting or periodical attacks of general abdominal pain. Diarrhea has been found due to chronic appendicitis. These same symptoms are found in the presence of various other pathologic conditions such as ulcer, gall-bladder pathology, cancer of an abdominal organ, hernia, pelvic lesions and diseases of the stomach itself. The matter of diagnosis then becomes of prime importance. The signs are not those of an acute appendicitis, and often there is no history of any previous acute attack. Some analyses of cases have been made which would seem to indicate that the frequency of indigestion increases with the number of acute attacks.

A very carefully taken history should be the first step in diagnosis, followed by a thorough physical examination. As a rule gastric findings are within normal limits though they may vary either way, frequently enough to make the examination of stomach contents of secondary importance.

In the physical examination often no tenderness over the appendix will be discovered until the colon is dilated with air from an atomizer bulb.

In distinguishing between ulcer and chronic appendicitis remember that in the former condition the characteristic feature is the regular return of pain and its accompanying vomiting, gas and sour eructations, day after day, and their control by food or lavage. Exertion often brings on pain in chronic appendicitis, and the pain, while epigastric or but poorly localized, may radiate to the right lower quadrant.

Gall-bladder inflammation or gall-stones often give a prolonged dull pain in the liver area and radiation of pain is more often to the right and back. Disappearance of pain after a gall-stone attack is prompt, after chronic appendicitis gradual.

Treatment is only surgical.

The paper was discussed by Drs. Davis, Donald, DuBois of Grand Rapids, Carstens, Brown, Hirschman, Walker, Yates and Parmeter.

Dr. J. E. Davis said: Moynihan says rigidity was more marked in ulcer than in chronic appendicitis and that there is a jerky respiration in ulcer. The pains are splanchnic or

visceral and automatic or reflex. The visceral pain comes from the stretching of the muscles of the bowel either from within outward or from without inward. The reflex pains come from the transmission of the sensation to the cord and from thence back to the skin, thus causing tenderness on gentle palpation.

The ballooning of the bowel quite likely causes an antiperistaltic wave, thus irritating the appendix. He has found the ordinary test-meal very unsatisfactory. The peristaltic action of the bowel can be learned by feeding the patient rice and raisins the night before, as suggested by Mayo.

Dr. W. M. Donald thought the test-meal satisfactory as to hyperchlorhydria, which is most common in ulcer.

Dr. William J. DuBois, Grand Rapids, said: Too many physicians believe they can cure appendicitis when in reality there is no medical treatment for it in any of its stages. The laity fear the operation because of isolated instances of high mortality. Their fears should be allayed by teaching them the necessity of early operation with its coincident low mortality.

Dr. J. H. Carstens said that one reason for appendicitis in old age is the atrophy and degeneration of the appendix. If this degeneration and atrophy begin at the distal end of the appendix and progress proximally, then the danger of appendicitis is *nil.* But if this process is reversed, then constriction taking place anywhere in the extent of the lumen may result in infection. He believes in early operation of course.

Dr. G. V. Brown pointed out the differential diagnosis of right adnexal disease from appendicitis.

Dr. L. J. Hirschman thought it strange that more cases of diarrhea did not result from appendicitis, since one would expect an irritation of the mucosa in and about the ileocecal region.

Dr. F. B. Walker called attention to a diagnostic point when the psoas of the right side is made to contract. He believes many cases of indigestion in children due to appendicitis.

Dr. H. W. Yates called attention to the necessity and value of the differential blood count.

Dr. Parmeter believes the symptoms of indigestion as a concomitant of chronic appendicitis is a well-recognized diagnostic symptom among the profession. He has made note of this symptom in practically all cases examined by him for the last four years, and he believes that in more than two-thirds of the cases that symptoms of indigestion have been present. He called attention to Rovsing's symptom and presented a specimen containing fecal concretions resembling peas in a pod, which was removed from a patient who had suffered and been treated for indigestion for more than nine years.

At the general meeting of the Society, March 18, Dr. A. P. Ohlmacher reported a case of Addison's disease terminating in acute acidosis and demonstrated the specimen obtained post mortem showing simple atrophy of the adrenals. As a source of comparison he showed with the atrophic adrenal a normal adrenal also obtained post mortem.

Dr. Angus McLean read a paper entitled "A Résumé of a Year's Surgical Work."

The following applications for membership having been favorably considered by the Board of Directors were admitted to active membership by vote of the Society:

John N. Swartz, U. of M. '92, Detroit; Arthur L. Worden, U. of M. '79, Detroit; Kenneth W. Dick, D. C. of M. '07, Detroit; George H. Hardy, D. C. of M. '07, Detroit; L. P. Breitenbach, D. C. of M. '11, Detroit.

Vice-President B. R. Schenck and Secretary E. K. Cullen presided as chairman and secretary.

Ninety members were present.

A Résumé of a Year's Surgical Work

By Angus McLean

The number of operations included amounted to about 1,100. Special reference was made to the diagnosis, anesthesia, preliminary and after treatment, and mortality.

For diagnosis, a carefully written history is always a great aid, for by means of it mistakes, especially those due to carelessness and negligence, are usually avoided. Special blood examination, as well as cystoscopic, *x*-ray ophthalmoscopic examinations, etc., are also very often of inestimable value.

The anesthetic should always be given by a skilled anesthetist. Patients have come to dread the anesthesia more than the operation itself. The danger from anesthesia is much increased if given by a novice. Ether has been the anesthetic of choice. In many cases

nitrous oxid gas and oxygen are given. This latter is being used more and more. Ordinarily the anesthetic is preceded by a hypodermic of morphin sulphate gr. $^1/_6$ and atropin sulphate gr. $^1/_{150}$. In order to reduce to a minimum the amount of anesthetic, operations are performed as expeditiously as is consistent with thorough work. Anesthesia is discontinued as early as possible.

In the after treatment careful attention to elimination and the administration of as little morphin as possible is always insisted on. The stomach and rectal tube are always used early, that is, as soon as distention or vomiting become evident. Only albumins, water and tea are allowed the first two days.

The operations were classified according to the various anatomic regions such as thyroid, breast, stomach, gall-bladder, appendix, kidney, prostate, uterus, pelvic appendages, etc. The number, complications and mortality in each class were discussed.

The total mortality in the 1,100 cases was twenty-nine, or 2.45 per cent. There were 652 major operations and among these the mortality was nineteen, or 2.67 per cent.

The deaths that occurred were due either to severe accident, to carcinosis, to advanced peritonitis (that is in cases admitted with advanced peritonitis), or to ileus and embolus.

The latter two are really the only post-operative deaths. The number of ileus deaths was one, less than ever before, due it was thought to following the rule of performing an enterostomy early. The number of embolus deaths was three.

The paper was discussed by Drs. Blodgett, Spitzley, Metcalf, Schenck, Cullen and Longyear.

Dr. A. W. Ives has presented to the Society a copy of a lithograph showing the vaccine pustule in various stages.

The lithograph was printed for Dr. Ives' great grandfather, Dr. Valentine Seaman, surgeon to the New York Hospital, and was printed about 1798. Framed with the cut is a visiting card of Dr. Jenner.

At the meeting of the Surgical Section, March 25, Dr. Raymond C. Andries read a paper, illustrated with charts and diagrams, entitled "Ileus."

Eighty members were present.

Ileus *

By R. C. Andries

The paper dealt principally with the cause of death in ileus uncomplicated by peritonitis. The deductions made were derived from experiments performed on dogs, rabbits and guinea-pigs.

The experimental ileus was produced in dogs by dividing the bowel 8 inches from the pylorus and sewing the cut edges together. The cut edges thus sewed together made blind ends. These were inverted and again approximated by a row of Lembert sutures. This method was adopted because by means of it death would occur without an accompanying peritonitis. (Cultures taken from the peritoneal cavity after death were negative).

The intestinal contents proximal to the obstruction were filtered and injected into guinea-pigs; in some cases sterilized, in others unsterilized. The pigs lived in both cases.

The blood-serum of ileus dogs was next used. This in some instances produced fatal results, in others it did not. It was then found that normal dog serum had this same effect on guinea-pigs. Instead of using guinea-pigs for the injections, dogs and rabbits were next used. These survived the injections in every case. The dogs and rabbits did not even appear ill after the injections of serum taken from the blood of dogs dying with ileus.

The blood of dogs dying from ileus was also transfused directly into normal dogs without producing symptoms of intoxication. After the transfusion the recipient dog seemed as lively as ever. It showed no signs of poisoning. The average weight of the recipient dog was 13.77 pounds and the average amount of ileus blood it received was 13.4 ounces.

Bacteria could not be demonstrated in the blood of dogs dying from ileus.

The dogs lived on an average of sixty-seven hours and during that short time they lost considerably in weight. This loss in weight amounted to about one-tenth of the body weight, all due to a loss of body fluids. The loss of body fluids causing a grave disturbance in the circulation, especially in the circulation of the vital centers in the brain plus some probable reflex disturbance of the sympathetic nervous system, analogous to the reflex dis-

---

* The experimental work for this paper was done in the research laboratories of Parke, Davis & Co.

turbance that takes place when death is caused by a severe blow on the solar plexus, must be considered as prime factors in the causation of death in ileus.

A few hints for the treatment of ileus in the human subject were given.

SUMMARY

1. Death in ileus as far as we can determine is not due to a toxemia; i. e., it is due neither to the absorption of bacteria or their toxins nor to the absorption of some altered physiologic secretion.

2. A depletion of the vascular and lymph system, causing a grave disturbance in the circulation, especially in the cerebral circulation, is a prime factor in the causation of death.

3. A pathologic change in the sympathetic nervous system, a loss of sympathetic control, is probably contributory.

4. Treatment must first of all relieve distention and secondly refill the depleted vessels.

Dr. F. B. Walker said: Dr. Andries' work is to be commended, not only for its intrinsic value but also on account of the advantage to him in going on with it further.

I have had results in experimental work similar to his. Mere tying of the gut is not satisfactory, does not produce complete obstruction. Too tight a ligature will end in peritonitis. A loose one will not close the gut, and if drainage be ever so slight dogs will survive a comparatively long time.

Dr. Andries caused obstruction about 6 inches from the pylorus in the duodenal portion. Those dogs all died in from three to four and one-half days. I have made it lower down, from the duodenojejunal junction all the way to the ileum and the dogs would live a longer time. Dr. Maury, in the course of his 400 experiments found the lethal line to be 35 cm. from the pylorus. Dogs with a short loop, shorter than 35 cm., would die before a stoma would be made by a twine placed in a triangular form through stomach and small gut after the manner of a McGraw ligature. Long looped dogs would survive the stoma. He pursued those studies to the extent of eliminating the bile as the cause of the phenomena of ileus and inferred that the pancreatic juice and the absence of antibodies to counteract its effect was the source of the intoxication. He was so satisfied with that conclusion that he asked for corroboration of it. It is deserving of that consideration.

The paper was also discussed by Drs. T. A. McGraw, W. H. Hutchings, Angus McLean, C. D. Brooks and J. E. Davis.

At the general meeting on April 1, 1912, Dr. H. A. Freund read a paper entitled "Clinical and Instrumental Methods of Estimating the Efficiency of the Heart," illustrated with charts, diagrams, *x*-ray plates and specimens.

The following applications for membership having been favorably considered by the board of directors, were accepted by the Society for membership, the first to active and the latter two to associate membership:

E. P. Mills, D. C. of M. '99, Detroit.

W. C. Pepin, D. C. of M. '06, Windsor.

W. E. Loud, Jenner Med. Coll. '04, Detroit.

Dr. Angus McLean demonstrated a little patient upon whom he recently operated for the correction of a nasal defect by transplanting a flap from the right arm, making use of the Italian method. The right ala of the nose had been destroyed by the application of arsenical paste by a quack in the effort to destroy a nevus.

Vice-President B. R. Schenck and Secretary E. K. Cullen presided as chairman and secretary.

Sixty-eight members were present.

Clinical and Instrumental Methods of Determining the Efficiency of the Heart

By Hugo A. Freund

We have all at our constant command those faculties that determine the integrity of the cardiac mechanism. By inspection, palpation, percussion, and auscultation one may determine the efficiency of the heart.

Inspection reveals bulging, pulsations, retractions, cyanosis, edema, etc. Palpation determines thrills, shocks, rhythm, rate, regularity, volumn, tension, and quickness of the pulse and of the heart. Percussion sheds light upon its size in the various directions. Both the deep and superficial should be determined. Auscultation informs us of murmurs, accentuations, reduplications, divisions and interpolation of sounds. Friction rubs are also of importance.

Instrumental methods are the polygraph, the skiagraph, the sphygmomanometer and the electro-cardiograph. By the aid of the poly-

graph variations in the various waves of the venous pulse are determined. Heart block, extrasystoles, absolute arhythmias, paroxysmal tachycardia, pulsus alternans, and other irregularities are determined. With the skiagraph and orthodiagraph, size, expansion and pulsations of the chambers of the heart are seen. The blood-pressure is a valuable aid in determining the strength of the muscle and the load against which it must work. The systolic and diastolic should always be taken. The electrocardiograph registers the action currents of the heart brought out by the excitation of the conducting system. By this method every form of cardiac insufficiency and irregularity may be absolutely and simply determined.

No one can do without the use of the clinical methods of inspection palpation, auscultation and percussion. The instrumental methods are not essential. Yet they give us invaluable information in the study of the efficiency of the heart and must be considered as useful aids in clinical examinations.

Dr. W. J. Wilson, Jr., said: Under favorable conditions in a hospital, an accurate blood-pressure reading can be made in five minutes and both jugular and radial pulse readings in 15 minutes more. The speaker is more interested in therapeutics than in diagnosis. Successful therapeutics must be based on accurate diagnosis, however.

For some time I have been doing pulse tracings in the wards of St. Mary's Hospital, where we have a large number of heart cases, in one service alone there being in the course of two weeks three cases of tricuspid regurgitation, from two of which I obtained positive venous pulse tracings. In one of these I administered intravenously in the external jugular vein, 1 c.c. of 1-to-1,000 strophanthin solution, the blood-pressure (systolic) rising from 100 mm. to 120 mm. in the course of 20 minutes, but the patient was in extremis and died 24 hours later.

Dr. Wilson then showed a tracing taken in the pharmacological laboratory of the Detroit College of Medicine with the mercurial manometer from the carotid artery of a dog, showing the marked beneficent effect on the blood-pressure and pulse of a similar dose of strophanthin administered by the femoral vein.

Two tracings from a patient in another service at St. Mary's Hospital were then shown, one taken March 27, 1912, showing numerous ventricular extrasystoles, the other, April 1, 1912, showing a normal arterial and venous pulse. This was a case of pure mitral regurgitation following rheumatism of two years' standing with remissions. Believing there must be some point of excessive irritability in the ventricular walls due to the long standing inflammation, sodium iodid in 10-gr. doses was administered three times a day succeeding the first tracing with the result above mentioned. I believe with one of the discussers that the only correct way to estimate the blood-pressure is by the auscultatory method. Using the Mercer instrument, we place a stethoscope, usually the Bowles instrument, just below the elbow on the flexor surface of the arm. All through the period of pulse pressure, a marked thud in the brachial or ulnar artery is perceived with each pulse wave, this disappearing just above the point of systolic pressure and just below the point of diastolic pressure. As the sense of hearing is much more acute than the sense of touch, much more accurate readings are obtained, and also readings are obtained in cases otherwise impossible to secure.

The paper was also discussed by Drs. Mercer, Haass, Rich and Jennings.

ROLLAND PARMETER, Reporter.

THE DETROIT OTOLARYNGOLOGICAL SOCIETY

At a regular meeting held at the Wayne County Medical Society building on March 19, the following program was presented:

1. (*a*) Presentation of a patient on whom Heath's operation had been done. (*b*) Report of a Killian operation.

Dr. H. H. Sanderson.

2. (*a*) Report of two cases of sigmoid sinus thrombosis. (*b*) A case of loose bone in mastoid process. Dr. Don M. Campbell.

3. A case with obscure pyemic temperature following mastoid operation.

Dr. Harold Wilson.

4. (*a*) Report of a case of spontaneous tympanomastoid exenteration. (*b*) Second report of a case of keloid formation in a scar following a mastoid operation. Dr. Emil Amberg.

A dinner participated in by the members preceded the program. E. A.

NEWS

Dr. Victor C. Vaughan, of Ann Arbor, delivered an address on "Fever; Its Nature and Significance" at the joint meeting of the Rock County Medical Society with the Third Councilor District Society of Wisconsin at Beloit.

The right of the state of Indiana to prohibit the sale of preserved foodstuffs containing benzoate of soda was upheld in a report to the federal court of the findings of Edward Daniels, master in chancery, who heard testimony in a suit against H. E. Barnard, state food commissioner, and the State Board of Health by the Williams Brothers Company of Detroit, Mich., and the Curtice Brothers Company, of Rochester, N. Y. Products of these companies were barred from sale in the state by the health authorities on the ground that they contained benzoate of soda. The companies sued for a restraining order, setting up that benzoate of soda was harmless in small amount. The master of chancery finds the plaintiffs failed to make their case against testimony of experts introduced by the state.

At the annual spring elections on April 1, the following doctors were elected as mayors of their respective cities:

A. W. Chase, Adrian.
J. B. Stevens, Yale.
W. A. Lemire, Escanaba.
W. J. Pinkerton, Bessemer.
G. G. Barnett, Ishpeming.

Since March 1, the following articles have been accepted for inclusion with New and Nonofficial Remedies:

Capsules of holadin succinate of soda and bile salts (Fairchild Bros. & Foster).

Capsules of bile salts succinate of soda and phenolphthalein (Fairchild Bros. & Foster).

Capsules of holadin, bile salts and phenolphthalein (Fairchild Bros. & Foster).

Euscopol (Riedel & Co.).

Eucodin (Riedel & Co.).

Iodo-casein (H. K. Mulford Co.).

Iodo-casein tablets, 2½ grs. (H. K. Mulford Co.).

Iodo-casein tablets, 5 grs. (H. K. Mulford Co.).

Formacin (Kalle & Co.).

At the Saginaw County Farmers' Institute, Jan. 25, 1912, Dr. R. L. Dixon, secretary of the State Board of Health, delivered an address on "Relation of the Farmer to the Health of the City." This address deals with sanitation as related to all farming operations, health conservation, typhoid fever, the typhoid fly, milk as a disease carrier, and sanitary precautions. The address is published in full in the *Michigan Dairy Farmer*, Detroit, Feb. 17, 1912.

Dr. Frederick C. Warnshuis, of Grand Rapids, secretary of the Kent County Medical Society, was operated on during the night of April 1 for acute appendicitis. He is reported as progressing very satisfactorily.

Alpena physicians stand for better sanitary conditions. They deplore the fact that the ice men have to harvest contaminated ice, by reason of State Street sewer emptying directly into the bay. A trunk sewer down State Street would give us better water at the intake pipe, a better ice-supply, a clean water-front, and the boys a good bathing-beach.—Alpena *Medical News.*

Judge Emerick recently, defining the power of the board of health and the board of supervisors as relates to physicians' contagious disease bills, ruled that the health board had the power to fix the compensation of the health officer to decide what diseases were contagious and as to the parties' ability to pay. The supervisors under the Francis law may pass on the necessity of the service, whether actually performed, and the reasonableness of the charge. This clear cut decision should create a better understanding between all parties concerned.—Alpena *Medical News.*

The editor is in receipt of a letter from the principal of the public schools of New Era stating that the town has a population of 500 with a contributing farm population of 1,500, and no doctor, the nearest doctor being 4 miles away. The population is American and Dutch. New Era is located on the Pere Marquette Railroad. Any one desiring further information address Mr. H. George Roest, New Era, Mich.

The annual clinic held by the Alumni Association of the Detroit College of Medicine will begin May 15 and continue for eight days.

The following are some of the clinicians who will be present: J. Rawson Pennington, professor rectal diseases, Chicago Polyclinic; Dr. E. S. Bullock, Silver City, N. M., physician and chief of a tuberculosis sanatorium; Dr. David Reisman, Philadelphia, professor of medicine in the University of Pennsylvania; Dr. George W. Norris, Philadelphia, professor in medicine in the University of Pennsylvania and specialist in arhythmias; Dr. Woods Hutchinson, New York, professor at New York Post Graduate School of Medicine, author, and consulting physician; Dr. Emil Beck, Chicago, professor North Chicago Hospital; Dr. Joseph De Lee, Chicago, noted obstetrician.

Dr. R. C. Jamieson has returned from his trip abroad and has reassumed his practice.

Official Call to the Officers and Members of the Constituent Associations of the American Medical Association: The sixty-third annual session of the American Medical Association will be held on Tuesday, Wednesday, Thursday and Friday, June 4, 5, 6 and 7, 1912, at Atlantic City, New Jersey.

The House of Delegates will convene at 10 a. m. on Monday, June 3, 1912, at Atlantic City, New Jersey.

John B. Murphy, President,

Alexander R. Craig, Secretary.

Chicago, Ill., April 10, 1912.

April 13 Prosecutor Shepard of Detroit caused the arrest of the proprietors of Drs. K. & K., Babington & Thomas, and Hunt Medical Institute. Other arrests will follow. The charge in the case of K. & K. is "Maintaining an Anatomical Museum contrary to the law of 1905." The charges against the others are illegal advertising. Prosecutor Shepard has cleaned out the "Loan Sharks" and promises to clean out the "Specialist" Vampires.

Dr. F. B. Marshall of Muskegon sailed April 23 for a three months' European trip. He will study general surgery.

PROGRAM

PRELIMINARY PROGRAM OF THE 47TH ANNUAL MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY TO BE HELD IN MUSKEGON, JULY 10-11, 1912

The following papers have been promised for the meeting. They are not arranged in the order of presentation.

SECTION ON GENERAL MEDICINE

1. The Clinical Action of Digitalis. H. A. Freund, Detroit.
2. Tuberculosis in Children. Collins H. Johnston, Grand Rapids.
3. The X-Ray in the Diagnosis of Internal Medical Conditions (with Demonstration). Preston M. Hickey, Detroit.
4. The Etiology of Cholera Infantum. Clara Davis, Lansing.
5. Cirrhosis of the Liver. I. M. J. Hotvedt, Muskegon.
6. Subject to be announced later. John B. Jackson, Kalamazoo.
7. Pneumonia. W. L. Griffith, Shelby.
8. Subject to be announced later. Carl D. Camp, Ann Arbor.
9. Subject to be announced later. John Crosby, Plainwell.
10. Subject to be announced later. C. W. Hitchcock, Detroit.

SECTION ON SURGERY

The following have promised papers for this Section, the subjects will be announced later:

Chairman's Address, C. D. Brooks, Detroit, Mich.

Major Frederick W. Hartsock, Fort Wayne, Mich.

P. M. Hickey, Detroit, Mich.

Jeannie Solis, Ann Arbor, Mich.

Alexander W. Blain, Detroit, Mich.

Channing W. Barrett, Chicago, Ill.

F. C. Kidner, Detroit, Mich.

F. C. Witter, Petoskey, Mich.

Angus McLean, Detroit, Mich.

R. E. Balch, Kalamazoo, Mich.

L. J. Hirschman, Detroit, Mich.

Frank C. Kinsey, Grand Rapids, Mich.

SECTION ON GYNECOLOGY AND OBSTETRICS

1. The Treatment of Marked Uterine Prolapse. Report of Sixty Cases Treated by Different Methods. Reuben Peterson, Ann Arbor.
2. So-Called Local Treatments. Indications; Use; Abuse. W. P. Manton, Detroit.
3. A Study of 180 Cases of Cancer of the Uterus, With Special Reference to Early Diagnosis. G. A. Kampermann, Ann Arbor.
4. The Toxemias of Pregnancy; Symptoms and Treatment. J. B. Whinery, Grand Rapids.
5. The Michigan Midwife Problem. Walter E. Welz, Detroit.
6. Lantern Slide Demonstration Illustrating the Conduct of Normal Labor. C. E. Boys, Kalamazoo.
7. The More Common Pelvic Deformities Causing Dystocia and the Methods of Detecting Them. H. H. Cummings, Ann Arbor.
8. Pathology of Cancer of the Breast and a Statistical Study of the Disease in Michigan. H. Van Den Berg, Grand Rapids.
9. Indications for and Methods of Inducing Abortion and Premature Labor. B. R. Schenck, Detroit.
10. The Control of the Pains of Labor. W. H. Morley, Detroit.
11. The Nature of Neurasthenia and Hysteria and Their Relations to Pelvic Conditions. R. R. Smith, Grand Rapids.
12. Lantern Slide Demonstration of Simple Uterine Displacements. Rolland Parmeter, Detroit.
13. Paper: Title to be announced later. H. W. Yates, Detroit.

SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY

1. Chairman's Address. Robert W. Gillman, Detroit.
2. Chronic Suppuration of the Antrum of Highmore and Its Treatment by the Intranasal Operation. Otto T. Freer, Chicago.
3. Indications for Enucleation. Calvin R. Elwood, Menominee.
4. Report of Work on Nasal Sinuses. Benton N. Colver, Battle Creek.
5. The Use of Salvarsan in Interstitial Keratitis, with a Report of Cases. Walter R. Parker, Detroit.
6. Frontal Lobe Abscess. Don M. Campbell, Detroit.
7. Vaccine Therapy and Its Application in Diseases of Eye, Ear, Nose and Throat. D. B. Cornell, Saginaw.
8. Salvarsan; Its Use to the Occulist, and Laryngologist. R. C. Fraser, Port Huron.
9. Foreign Bodies of the Trachea and Esophagus. Preston M. Hickey, Detroit.
10. Nasal Reflex Neuroses. Edward J. Berstein, Kalamazoo.
11. Treatment of Corneal Opacities. F. W. Brown, Bay City.
12. The Need of More Closely Following Modern General Surgical Principles in Rhinological Practice. H. L. Simpson, Detroit.
13. The Surgical Tonsil with a Discussion of the Indications and Technic Required for Enucleation. B. R. Shurley, Detroit.
    Discussion: James M. DeKraker, Grand Rapids.
14. Cataract Operation. J. G. Huizinga, Grand Rapids.
15. The Narrow Nose. R. E. Mercer, Detroit.
16. Paper, Title to be announced later. R. T. Urquhart, Grand Rapids.

COUNTY SECRETARIES ASSOCIATION

1. Subject to be announced. G. M. Livingston, Manistique.
2. Subject to be announced. I. L. Spalding, Hudson.
3. Value of Publicity to Medical Societies. C. M. Williams, Alpena.
4. Tuscola County Medical Society Plan for the Care of the Indigent Sick. W. C. Garvin, Millington.
5. Address. Frederick R. Green, Chicago.
6. General Discussion. The Society Bulletin.

ANNOUNCEMENTS

Dr. Lunette I. Powers and Dr. Lucy N. Eames extend a special invitation to the women physicians of the State to attend the convention held in Muskegon, July 10-11. They are planning some special features which will not conflict with regular meetings of the Society. Among other things will be a banquet for the women physicians. Dr. Powers and Dr. Eames would be glad to hear from any who intend to come, in order to plan their entertainment.

COMMUNICATIONS

"WHAT'S THE MATTER WITH MICHIGAN?"

In our last number* we reprinted an editorial from the March 23d number of *The Journal of the American Medical Association,* captioned "What's the Matter with Michigan?". We addressed a few letters to medical men throughout the state asking their opinion of this matter for publication and herewith present their replies:

Detroit, April 2, 1912.

Dr. Wilfrid Haughey, Sec'y. Michigan State Medical Society.

My Dear Doctor:—Your letter asking my opinion of "What's the matter with Michigan" is at hand. I beg to state that in my judgment the trouble with Michigan is with the medical practice act. We have a law with rigid requirements for admission to practice, and severe penalties for violation of its provisions, but the act makes it no man's business to see that the law is enforced. It is made mandatory upon the prosecuting attorney of each county to prosecute offenders, but until complaint is made and evidence submitted sufficient to legally warrant prosecution he will not act, and it is the duty of nobody to make such complaint and present such evidence.

The board of registration is supported by fees from applicants and these fees have never been in excess of the expenses of the purely clerical part of the work. Hence during the existence of the present law there has been no systematic attempt to enforce it except as it applies to applicants for registration.

Medically the state of Michigan is like the farmer's door-yard, with a big black dog at the gate, his hair standing on end and his growl carrying menace in every note. But when this dog is once placated with a bone (*fifty bones* to be exact) you are his friend and he cares not what you do. I think one could practice medicine a considerable length of time in many sections of Michigan without any license at all, and I know that men are practicing whose right to do so has been forfeited under the provisions of the act; but the act is not enforced for there is no one whose duty it is to enforce it.

The condition discussed in the editorial to which you refer is a violation of the medical law of Michigan with an added violation of the United States postal regulations, but the state looks to the government to clean house instead of running its own vacuum cleaner. I would change the act so as to have; 1, a clear definition of what constitutes the practice of medicine; 2, a state appropriation for the board sufficient to meet *all* expenses; 3, the mandatory duty of the board of registration to make complaint and secure evidence against all violators of the medical law.

Very truly,

FRANK BURR TIBBALS.

Big Rapids, April 3.

Dr. Wilfrid Haughey, Editor, Battle Creek, Michigan.

Dear Doctor:—I don't believe that I have a single idea concerning "What is the matter with Michigan." It is all a new thing to me. It seems to be a matter, as presented in the *Journal,* that involves the postal department. So far as our state legislation is concerned other men have given it more attention than I have and may be able to suggest a remedy. If the individual doctor can be aroused to exert his influence we may achieve something in bettering our legislation so as to exclude fakers, but at present our state is an open field for back-door admission to the profession, while the front door is securely locked.

Very truly,

W. T. DODGE.

Detroit, April 3, 1912.

Dr. Wilfrid Haughey, Sec'y Michigan State Medical Society, Battle Creek, Mich.

Dear Doctor Haughey:—I beg to acknowledge receipt of your letter of April 1st in which you refer to the article in *The Journal of the American Medical Association,* captioned "What's the Matter with Michigan?" published March 23, 1912.

In reply I will state that the mail order medical faker in law does not come within the provisions of the medical act, and every attempt to bring him within these provisions has failed, not only in Michigan but in other states. I called up Mr. J. J. Larmour, the local United States postoffice inspector here, and he informs me that conditions in Michi-

* Page 258.

gan, as regards the medical faker who advertises proprietary remedies, are much better than in the majority of states. He states that the article referred to in *The Journal of the American Medical Association* does not give the real facts, that Illinois, Indiana, and Ohio have a much larger number of these institutions to contend with. Within the past 10 years Mr. Larmour has put out of business fully 50 per cent. of these advertisers of medical cure-alls, existing during his administration in Detroit. As regards the Van Bysterveld Company, referred to in the article, he states a report should be made to the chief postoffice inspector at Washington, D. C.

These advertisers complained of, to the extent of at least 90 per cent., simply sell proprietary remedies in like manner as the druggists sell Castoria, Peruna, Mrs. Winslow's Soothing Syrup, and dozens of other proprietary remedies. It must be borne in mind that the federal officer, such as the postoffice inspector, has at his command not only the federal attorneys, but also detectives and unlimited financial means, as well as authority to investigate records and other methods connected with illegal business. No state law could possibly compete with federal officials with unlimited means and methods at their command. Yours very truly,

B. D. Harison,
Secretary Michigan State Board of Registration in Medicine.

Bay City, April 3, 1912.

To the Sec'y of Mich. State Medical Society.

Dear Sir:—The editorial published in *The Journal of the American Medical Association* and reprinted in the Michigan State Medical Journal is calculated to bring the blush of shame to the face of every self-respecting, legally registered, practitioner of medicine.

The causes of such a condition require an analysis and the means of cure to be carefully sought out and applied.

Why quacks flourish needs no answer when we see the way the public flock after them, just in proportion to the absurdity of their claims and the loudness of their proclamations. If there were no quackery within the ranks of the legalized profession, and every physician were possessed of the highest skill attainable and the most scrupulous honesty with his patients, the number of those on whom the quacks prey would be reduced to the incurable, to those "afraid of the knife," and to those who must have a mystical or religious element at the base of their belief in medicine.

These classes have always, and will always exist, and it remains for the honest physicians to endeavor to protect them against themselves and the rogues who will fatten on their fears and prejudices so long as there is money in it.

Graft and politics are the fundamental causes of the failure to shut these fakers up, and you have only to study the results of the efforts to enforce the pure food laws to see the working of these forces. We have advertising quacks in our city and when efforts to suppress them were made by our medical society we were met by refusal to prosecute by one county prosecutor; or a demand for such evidence as would secure conviction in a court of law, before a *prejudiced* judge. Needless to say such evidence can rarely be obtained.

If our local society should actively enter on a campaign against the local quack, the public would at once side in with the man being "persecuted" as well as prosecuted, and we only aid in advertising him. He pays the newspaper roundly—so long as he is succeeding—for his advertising and they favor him, as against the established physician who will not advertise, *every time*—only one form of the graft.

To be successful in legal measures locally, our county society should be able to place before an official of the state the necessary complaint and evidence and that official should push the prosecution in the local courts. If he met reluctant officials who would not prosecute, his business would then be to bring such officials to the notice of the governor, and have the screws applied. If such an official could point to the governor as forcing him to do his duty, it would save his face politically, and make him much more ardent in his duty. It would seem as if the secretary of the state board of registration was the man whose duty it should be to be the prosecutor, and if his present munificent salary is insufficient to pay him for his trouble then he should have a raise; more pay but not shorter hours.

He could then take some of the time he has left from his onerous task of examining the few men who now come up for registration

and devote it to sweeping away some of the competition in the path of those who have already registered.

The medical profession of Michigan could well afford to pay an assessment of two or three dollars per member each year, and hire a smart firm of attorneys to make a business of securing evidence and prosecuting these carrion eaters. Half a dozen successful prosecutions in a year would soon discourage the tribe and we would not need to spread the news that "Michigan is getting to be unhealthy" for their kind.

Educating the public is an iridescent dream! The public does not want to be educated regarding quackery, and it behooves us to be honest with ourselves and go after the quacks in the interest of our own purses.

Sincerely yours,

CHAS. H. BAKER.

Detroit, April 2, 1912.

Dr. Wilfrid Haughey, Editor, Battle Creek, Michigan.

My Dear Doctor:—In answer to your letter will say that I think Michigan is all right, but I do not know how we can get at fraudulent concerns.

It seems to me it should be the business of the state board of registration, and still it is a question to me if it does not belong to the United States government.

We must first find out whose duty it is to investigate and prosecute these cases, and then we can urge the officers, whose duty it is, to prosecute the concerns.

Yours truly,

J. H. CARSTENS.

Jackson, April 4, 1912.

Wilfrid Haughey, M.D., Battle Creek, Mich.

Dear Doctor Haughey:—I note with a considerable interest your letter of April 1, and do not feel that I am competent to make suitable reply to the article in question. The facts are that there is no defense to be made by Michigan. After the thorough investigation of these fake concerns, by the postoffice department, and the fraudulent character fully exposed, I also feel as expressed in the closing paragraph of the published article, "Why Michigan should be exempted from federal activity is a mystery."

There is no question regarding the illegal status of all the mail-order fake institutions mentioned in the article, and many more which might be mentioned. It is a shame and disgrace to the fair and honorable name of our state to think that law can be so cunningly evaded as in the cases mentioned.

Two years ago I was a witness in supreme court at New Orleans in a case of "fraud and conspiracy" against Dr. Hale, whom you probably remember as being the sponser of several fake medicine concerns. In the trials (four indictments, and three trials) for using the United States mails in forwarding their quack methods, four other so-called doctors were also indicted, with the result that in the three trials, all were found guilty as charged, and the fourth would have gone the same if tried, but the judge did not have the time to try the case.

Now these institutions in Jackson and throughout the state are along the same line, and certainly could be indicted for "fraud and conspiracy" in using the United States mails for forwarding their quack nostrums. Can you give any adequate reason why this has not been done? Certainly I cannot, but see no excuse in permitting the concerns to do business.

I was talking with one of the "Magic Foot Draft" men a short time ago, and they seem greatly elated in saying that they have been before the "department at Washington and upon thorough investigation, it was fully decided that the 'Magic Foot Draft Co.' of Jackson, Mich., was not conflicting in any manner with the laws of the department."

Now by what logic was this accomplished, and why do they continue this traffic in defrauding the public, when it is well known to be, fake, faker, fakerist? I am thoroughly disgusted with the whole thing, admitting that the postoffice department has been doing some fine work in suppressing these imposters. The Magic Foot Draft concern has made barrels of money, and are still doing so at the old stand. People, or rather many people, love to be duped, and perhaps it is just as well that they are, it simply calms the uneasy nature of some people.

Now, doctor, I do not think there is anything in this that will answer the problem in question, I wish there was, but for my life I see no defense in the situation. The only thing

to do is to get in line and stamp out the fakers, the law is on our side, simply enforce it if it is possible.

I remain cordially,

A. E. Bulson.

Detroit, April 3, 1912.

Dr. Wilfrid Haughey, Editor Journal Michigan State Medical Society.

Dear Sir:—In answer to your letter concerning the editorial, "What's the Matter with Michigan?", I beg to say that in my opinion the matter deserves some serious consideration from the medical profession of the state. The tolerance of these cruel frauds is certainly a reflection on the public spirit of our profession, and indirectly on the good people of the state. The exact method of procedure to rid our state of this odium is a proper subject for discussion. Whether or not the State Medical Society should take official cognizance of the situation is of course a question for the council or the house of delegates to decide.

It seems that one of the most effective methods is that of prohibiting to these frauds the use of the United States mails. Officially or personally it should be possible for our profession to do much to stimulate and assist in this work.

Fortunately the most progressive newspapers have now taken a stand against these money-suckers and may be counted on to render valuable assistance. Spring is house-cleaning time. I propose that we "start something." Very truly,

Herbert M. Rich.

Grand Rapids, April 3, 1912.

Dr. Haughey, Secretary.

Dear Doctor:—In regard to "What's the Matter with Michigan," the postal authorities are the ones to take up that matter and I believe that all fakes, etc., should be reported to the board of registration by the councilors of the districts.

Sincerely yours,

D. Emmett Welsh.

Detroit, April 9, 1912.

To the Editor.

The rather trenchant interrogatory phrases of the late editorial comments contained in the March 23 number of *The Journal of the American Medical Association* concerning the capacity and willingness of the state of Michigan for taking and tolerating all sorts of medical charlatanism, constitutes a good basis for reflection.

Michigan has a pretty good law for regulating the practice of medicine, for protection of the people against the incompetency of the fakers; but, of course, no law can protect the community against the lying and dishonesty of the more learned fakers. It is obvious, therefore, that the laity, with all their newspaper education, is incompetent to judge of the truth or value of the various fakers' oral statements or advertisements, and will consequently continue, in a measure, to be the victim of its own superstition and credulity when dealing with these somewhat learned quacks, especially under present legal circumstances. But the community can and should be protected from the horde of ignorant and unscrupulous charlatans which, through newspaper advertisements mainly, succeed in getting the confidence of the credulous.

I do not believe that the people of Michigan are less intelligent or more superstitious than the people of other states, or that the Michigan newspapers and advertising agencies have a lower ethical standard than those of other states; but that the laws for regulating medical practice in Michigan are certainly *not enforced* must be acknowledged. I think that there has been one gang of fakers only eliminated from Detroit during the last few years, and that was accomplished mainly through the efforts of *The Detroit Times.*

While the officers of the law are, of course, primarily to blame for this state of affairs, the newspaper advertising agencies, and the newspapers themselves, must take a share as long as they assume the position of non-responsibility for the statements in their advertising columns, and sell space to anybody for advertising anything short of real houses of prostitution, real burglar combines, or real shell games. A great deal of blame, however, must rest on the advertising agencies, who turn in a great assortment of "stuff" to a newspaper for publication under contract, and if the newspaper criticises, or refuses to publish any of "the stuff" the agencies withdraw some of the good "ads," thus "holding up" as it were, the newspaper. I do not say that all advertising agencies do this, but some do. There are Mammonite advertising agencies as well as other Mammonite business concerns.

They cannot justly ease their consciences (as they are wont to do) by saying we don't know anything about the subject matter, we have no time to look up this and that, the people must attend to their own affairs, defend themselves, etc. This is manifestly unfair, because the people in this case cannot defend themselves. When seeking relief for their real or fancied sufferings they are utterly unable to avoid being cheated or injured, because they do not know how to form a judgment. It is not like buying shoes or neckties, they are unable to judge whether they have or not a dislocated bone, a "stomach trouble" or "liver trouble" (which terms by the way mean nothing at all). In other words the people generally are unable to make a diagnosis of their own cases, and in fact, do not know that many ailments are essentially mental (not structural), such as forms of hysteria, delusion, or hallucination of the sense of feeling and so on. Such cases are hard to manage as we know, and must be treated mainly psychopathically. Such persons are apt to go about seeking every sort of doctor or healer—giving their confidence to the one who most theatrically promises a cure. The extravagant statements or explanations made, the patient cannot or does not comprehend.

Now, what is the remedy? What is the duty of the State? Why, plainly to insist that every medical practitioner whether under the guise of religious hallucinations or not, shall be educated at least upon the topics of human anatomy, physiology, psychology, pathology, bacteriology, and the infectious diseases, before getting a license from the State to practice. Moreover, that the newspapers shall refuse to publish these terribly lying, nasty, and dangerous "ads." In other words, that the law shall hold them responsible for these "ads" as well as other matter published. And finally, that the prosecuting officers shall be made to understand that the people deserve protection from criminal or pseudo-criminal medical charlatans, as much as they do from "assault and battery," "highway robbery," "three card monte," or "gold-brick" fakers.

Now, comical as it may appear, many of these partially educated or partially moral practitioners are raising a cry for Medical Freedom. They want no license, want to undergo no examination. What do they mean? What Medical Freedom? Freedom to lie, or deceive from lack of scientific education or from lack of conscience?

E. L. SHURLY.

HILLSDALE, April 10, 1912.

Dr. Wilfrid Haughey, Secretary of Michigan State Medical Society, Battle Creek, Mich.

Dear Doctor Haughey.—The criticism of Michigan which you reprint from the *Journal of the American Medical Association* is not entirely just. In the first place I question the statement that Michigan is worse infested with patent medicine fakers and fraudulent advertisers than our neighboring states. We have them and regret it as much as others can and would be pleased to have the practical way to get rid of them pointed out. There is a difference between theory and practice.

Our Medical Practice Act, which is the best that the people of the State will approve, fails to reach them. We have no state law that is effective in correcting this abuse. The farthest we have been able to go is to make an offense of all advertising of medical business in which grossly improbable statements are made. Under this provision of our Act a jury must decide from the facts in the case, and juries, as a rule, cannot be convinced of the fallacy of the claims of these fraudulent advertisers. Michigan has a law to prohibit certain classes of immoral advertising, passed at the last regular session of the legislature. This law makes it an offense to advertise remedies for sexual diseases.

The federal authorities only can deal with this problem and they are handicapped by a public sentiment supporting these fakers. Until the people can be educated to a higher estimate of the standards and purposes of the medical profession, this evil must be endured. A campaign of education is going on and will ultimately bring results.

With kindest regards, I am,

Yours sincerely,

WALTER H. SAWYER.

DETROIT, April 10, 1912.

Dr. Wilfrid Haughey, Battle Creek, Mich.

Dear Doctor.—I have nothing to offer at this time upon "What's the Matter with Michigan." I am sure, with our present prosecutor, Detroit

will be able to give these men a warm reception in the near future.

Respectfully,

Arthur D. Holmes.

FINGER PIECE EYEGLASS MOUNTINGS

Muskegon, Mich., Feb. 16, 1912.

To the Editor:—An oculist's patient for whom he has prescribed eyeglasses or spectacles would receive much better satisfaction from their use and much less annoyance in learning how to use them if the oculist would pay more attention to directing the patient *how* to use them. No oculist would prescribe any remedy for use locally in the eye or for internal administration without being certain that the patient received full and explicit instructions as to *how* to use it. Neither should he prescribe spectacles or eyeglasses without exercising the same care to be certain that the patient received proper instructions for the use of these spectacles or eyeglasses as a remedy. This is particularly true of the finger piece eyeglass mounting.

The writer has long looked with disfavor on the illustrations got out by manufacturers and commercial houses showing the use of the finger piece eyeglass mounting. Every illustration of this kind that has ever come before me has represented the glasses, when held in the wearer's hand, having the finger piece held between the thumb and first finger.

Finally the writer in an endeavor to have these illustrations of more instructive nature wrote to the American Optical Company of Southbridge, Mass., the following letter:

Muskegon, Mich., Nov. 14, 1911.

American Optical Co., Southbridge, Mass.,

Gentlemen:—On the back cover of your November number of "Amoptico" you represent a lady holding a Fits-U eyeglass mounting by the thumb and first finger resting on the finger pieces. In my opinion this is wrong. I have always taught my patients to use the thumb and *second* finger on the finger pieces when putting on or taking off eyeglasses with finger piece mountings. I believe that they can do it much more handily that way. I teach them to use the thumb and second finger on the finger piece with the first finger resting lightly against the bridge.

I think you will find that patients who have never worn finger piece eyeglasses will always fumble about with thumb and first finger when trying to remove the glasses and will have difficulty in placing the tips immediately on the finger pieces of the mounting. Whereas if they are taught to place the tip of the first finger immediately on the bridge when taking off eyeglasses the thumb and second finger will automatically drop on the finger pieces and there will be no uncertain fumbling about and sometimes knocking off of the glasses before they get hold of the finger pieces. Likewise when putting eyeglasses with finger piece mountings in place on the nose, if patients hold the finger pieces between the thumb and first finger they very rarely get the mounting back on the nose to make it hold properly.

I teach them to use the thumb and second finger on the finger pieces, resting the tip of the first finger against the bridge of the mounting. I tell them to push the bridge of the mounting well back with the tip of the first finger before they release the finger pieces, and to keep the bridge pressed back with the tip of the first finger until after the finger pieces are released by the thumb and second finger. I see that patients adapt themselves very quickly to the use of the finger piece mounting when instructed in this way; and they have much less trouble in taking them off and putting them on than they do when using the thumb and first finger.

Very truly yours,

V. A. Chapman.

And in reply received the following letter:

AMERICAN OPTICAL COMPANY

Southbridge, Mass., Nov. 17, 1911.

Dr. V. A. Chapman, Muskegon, Mich.

Dear Doctor:—We were particularly interested in your very kind letter of the 14th inst., and it certainly shows your good will toward us in taking the time you have to discuss a matter which is of importance to us as manufacturers of the Fits-U eyeglass, that is, in reference to the proper way a finger piece eyeglass should be put on and taken off.

Unfortunately it is too late to change our picture, and our posters that we are now sending out, but the point is well taken, and is deserving of being brought to the special attention of the trade.

We are going to get out some illustrations showing the right and wrong way to handle finger piece eyeglasses, and write an article

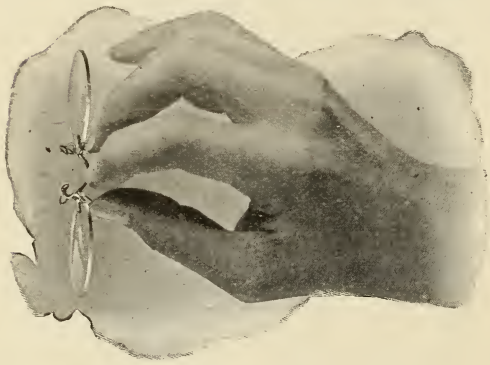
for the next issue of Amoptico, embodying your suggestion and line of argument. This we hope you will find appearing in our January issue, now being prepared. We know you will be interested in seeing it.

Being a close student of such matters, we hope you will take occasion to write us whenever you can suggest important matters of this kind to us, as we very much appreciate your courtesy.

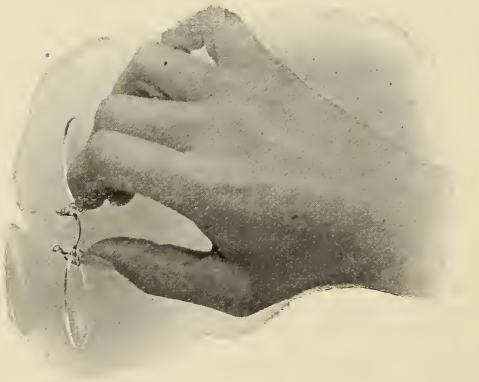
With kindest regards, we are,

Very truly yours,

American Optical Company.



The Right Way.



The Wrong Way.

This article which the American Optical Company refers to as to appear in their January issue did appear in the January issue and was substantially extracts from my letter of November 14 which I wrote to them. In that article, however, they did not give me any credit for the suggestion, and they wrote it as being more especially instructions to opticians. Witness the words "and is deserving of being brought to the special attention of the *trade*."

I believe that the subject is one worthy of being brought to the attention of the oculists.

The American Optical Company has kindly loaned to me the cuts which they prepared illustrating this method of placing in position on the nose and removing finger piece eyeglass mountings; and they are shown herewith. These cuts show by illustration perhaps better than can be described by words the method above referred to. V. A. Chapman.

BOOK NOTICES

W. B. Saunders Company have just issued a new (16th) edition of their Illustrated Catalogue which describes some forty new books and new editions published by them since the issuance of the former edition.

Any physician wishing a copy of this catalogue can obtain one free by addressing W. B. Saunders Company, 925 Walnut Street, Philadelphia.

Reports of the Chemical Laboratory of the American Medical Association. Vol. 4. January to December, 1911. By W. A. Puckner, Director of the Laboratory, American Medical Association, Chicago. Price, 25 cents.

This is a most valuable little volume and should be in the hand of every physician who is interested in clean pharmaceuticals and honesty in their manufacture.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., assisted by Leighton F. Appleman, M.D. March 1, 1912. Lea & Febiger, Philadelphia and New York. $6 per annum.

This volume contains in the same concise and easily accessible form the advances in surgery of the head, neck and thorax, infectious diseases, diseases of children, rhinology, laryngology and otology. The index is complete, making reference especially easy.

Microscopy, Bacteriology and Human Parasitology. By P. E. Archinard, A.M., M.D., Bacteriologist, Louisiana State Board of Health and City Board of Health, New Orleans. New (2d) edition, thoroughly revised. 12mo, 267 pages, with 100 engravings and 6 plates. Cloth, $1 net. The Medical Epitome Series. Lea & Febiger, Publishers, Philadelphia and New York, 1912.

This little book is a handy handbook of the facts and methods of bacteriology, microscopy, etc. The illustrations are good, and the text clear but brief, making the book useful as quick reference. Each chapter is followed by a series of questions, as an aid in preparing for examinations, recitations, and to fix the subject matter of the chapter more firmly in mind.

Physiology. A Manual for Students and Practitioners. By A. E. Guenther, Ph.D., Professor of Physiology in the University of Nebraska, and Theodore C. Guenther, M.D., Attending Physician, Norwegian Hospital, Brooklyn. New (2d) edition, thoroughly revised. 12mo, 269 pages, illustrated. Cloth, $1 net. The Medical Epitome Series. Lea & Febiger, Publishers, Philadelphia and New York, 1912.

This is a concise treatise on physiology designed primarily for students. It is a ready reference for the more important facts of physiology, but does not pretend to be a minute or complete work.

The Surgical Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago. Volume 1, Number 1. Octavo of 133 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Published bi-monthly. Price per year: Paper, $8; cloth, $12.

These clinics are a faithful reproduction of Dr. Murphy's valuable discussions while giving clinics. Dr. Murphy's fund of pathologic information is profusely drawn on and a perusal of these clinics is a liberal education in the pathologic differentiation of the numerous cases met with in every-day practice. He is a firm believer in relieving the patient as well as correcting the pathologic condition in surgical work. The Clinics are neatly and artistically put out in a form lending itself readily to permanent binding, when one would have a valuable book. The first number is well illustrated and has only one drawback, which is present in much clinical teaching — the results are not shown.

Recent Methods in the Diagnosis and Treatment of Syphilis (The Wassermann Reaction and Ehrlich's Salvarsan, "606"). By C. H. Browning, M.D., Lecturer on Bacteriology in the University of Glasgow, and Ivy McKenzie, M.D., Director, Western Asylums' Research Institute, Glasgow. Octavo of 303 pages. Cloth. $2.50 net. Lea & Febiger, Philadelphia and New York, 1912.

A very valuable, useful and altogether desirable book, giving in an unbiased manner the results of the experience of these authors with salvarsan. The reviewer finds many points of practical value in this work and feels justified in recommending it to those seeking up-to-date information on the subject.

A commendable effort at classification of conditions in which this treatment is beneficial as well as other conditions in which it is dangerous is an important feature. The tabulated table of fatal cases with post-mortem findings is invaluable.

Nervous and Mental Diseases. By Archibald Church, M.D., Professor of Nervous and Mental Diseases and Medical Jurisprudence in Northwestern University Medical School, Chicago, and Frederick Peterson, M.D., Professor of Psychiatry, Columbia University. Seventh edition, revised. Octavo volume of 932 pages, with 338 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5 net; Half Morocco, $6.50 net.

The seventh edition of this valuable work is to a great extent a rewritten book, embodying advances, new theories and much new information. The section on mental diseases is entirely rearranged to comply with later ideas of classification. The chapters on such subjects as pellagra, poliomyelitis and pituitary disease are almost entirely new, owing to the great advance in our understanding of these conditions.

The book continues the same excellent illustrations with the addition of many new ones, and is well up to the standard of excellence established by these authors.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles by leading members of the medical profession throughout the world, edited by Henry W. Cattell, A.M., M.D. Volume 1, 22d series. Philadelphia and London: J. B. Lippincott Company, 1912. $2.

This volume contains an interesting article by Cyriax of London on the treatment of facial paralysis with special regard to nerve friction. He reports some good results with this treatment. The article by James J. Walsh of New York on "The Masks of Diabetes" is especially valuable, pointing the way as it does of clearing up many doubtful diagnoses. Simon Flexner's article on "Experimental Poliomyelitis" is valuable. The volume maintains the high standard long ago established by this series.

THE PRACTICAL MEDICINE SERIES. Vol. IX, Skin and Venereal Diseases and Miscellaneous Topics. Edited by W. S. Baumy and H. N. Moyer. Series 1911. $1.25. Vol. X, Nervous and Mental Diseases. Edited by Hugh T. Patrick and Peter Bassoe. Series 1911. $1.25. Chicago: The Year-Book Publishers. Series, $10.

These two books are valuable in keeping up to the times in the fields covered. No man can keep entirely up to date in all subjects by original reading and research, but these books offer a method of reviewing and keeping abreast in the various fields. Sources of new facts, and references and given.

THE TAYLOR POCKET CASE RECORD. By J. J. Taylor, M.D. 252 pages. Tough bond paper. Red limp leather. $1. The Medical Council Co., Philadelphia.

The object of this book is to encourage more accurate observation and study of cases by supplying a convenient form for a condensed record of each important case, in pocket size, so that the practitioner can have it always with him, and so arranged that the necessary data can be written down in the briefest possible time—preferably while the examination is actually being made.

Thoroughness of examination is encouraged by means of a Syllabus, detailing all the points that should be considered in each case.

The blank for the first thorough examination diagnosis and treatment is followed by spaces for sixteen subsequent visits.

The book provides for 120 cases.

SCIENTIFIC FEATURES OF MODERN MEDICINE. By Frederic S. Lee, Ph.D., Dalton Professor of Physiology, Columbia University, New York. The Columbia University Press, 1911.

This is the series of Jesup lectures delivered at the Museum of Natural History, New York, in February and March, 1911, and the Scientific facts are told as nearly as convenient in language suitable for laymen. The lectures are in a measure popular but the subject matter is well chosen, presenting the problems of modern medicine in a way that cannot but be a benefit to all concerned, both the layman anxious to learn and the physician who must minister to him.

OPERATIVE OBSTETRICS, Including the Surgery of the New-Born. By Edward P. Davis, M.D., Professor of Obstetrics, Jefferson Medical College, Philadelphia. Octavo volue of 483 pages, with 264 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

It is a genuine pleasure to review this book. The subject is masterfully handled. Each statement is so clear and distinct that there is left no possible chance to misunderstand the author's meaning. While there may be an honest difference of opinion in some instances, all must agree as to the scientific and professional correctness of those advanced by this author. Normal and manual delivery and all minor as well as major operations are carefully explained and complete technic is given. The application of forceps under all conditions is fully and clearly described, with the dangers, accidents, and methods to avoid them noted. The chapter on Version is good. The illustrations, as do all throughout the work, show clearly the points discussed in the text. That on Embryotomy shows how rapidly this operation is being supplanted because of our better understanding of Cesarean Section and Pubiotomy. Description of the two latter and Suprasymphyseal Section close part second of the work.

Part three is devoted to Surgery of the Puerperal Period. It includes Removal of the Placenta, Lacerations, Operations for Septic Infections, Mastitis and Injuries, Fracture, Hernia, Circumcision, etc., on the child. The information, hints and experiences contained in this book we believe far exceed its money value to any one doing obstetrical work.

A HANDBOOK OF PRACTICAL TREATMENT. In Three Volumes. By 82 Eminent Specialists. Edited by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania, and A. O. J. Kelly, M.D., Late Assistant Professor of Medicine, University of Pennsylvania. Volume III. Octavo of 1095 Pages. Illustrated. Philadelphia and London: W. B. Saunders Co., 1912. Per volume: Cloth, $6.00 net; Half Morocco, $7.50 net.

This volume completes the work of practical treatment by Musser and Kelly. The immense value is apparent; but the fear arises that its very magnitude will prevent it reaching many who might profit greatly from it, but who may not require all it contains. Many of the articles would have made commendable monographs. In volume three most of the articles on diseases of the digestive system are good. Outlines of the surgical treatment of certain conditions of the stomach, intestines, liver, pancreas, peritoneum, etc., are given. The articles on Bronchoscopy and the Infections, Suppurative and Tubercular Diseases of the Lungs and Pleura are excellent. There is

an article on Defects of Speech, that while it deals with the subject as exhaustively, perhaps, as the space will allow, tells far too little of the technic of the treatment to be of practical aid to the practitioner. The short article on Diabetes Mellitis with the diet tables giving the calories per ounce and gram is practical and useful. The article on Scurvy especially that of bottle fed children is valuable and timely. Diet is made a prominent feature in the treatment of many conditions but a warning is sounded as to the alcoholic content of Kepfer and Kumiss.

It is unfortunate that the good things told in the chapters on Broncho-Pneumonia, Chronic Intestinal Pneumonia, Abscess of the Lung, Gangrene of the Lung and Tumor of the Lung could not have been written in smoother English.

As faulty expressions we note the use of "in" page 62 line 23, "both....as well as" page 93, line 12.

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1912, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies:"

Atophan is 2-phenyl-quinolin-4-carboxylic acid, $C_9H_5N.C_6H_5.COOH$, 2 : 4. The substance was first described by Doebner and Ciesecke in 1887. Its therapeutic action was described by Nicolaier and Dohrn in 1908. It is insoluble in water but readily soluble in alkalies and has a slightly bitter taste.

It is said to be useful in gout, particularly in the acute attacks, acting more promptly than colchicum and without undesirable by-effects. In gout the dose is from 0.5 gm. (7½ grains) four times a day to 1 gm. (15 grains) three times a day suspended in large quantities of water. To prevent the precipitation of free uric acid from the urine, sodium bicarbonate may be administered simultaneously. In articular rheumatism daily doses of 3 to 5 gm. (45 to 75 grains) are prescribed.

Atophan is also marketed in the form of tablets, each tablet containing 0.5 gm. (7½ grains). Schering & Glatz, N. Y. (*Jour. A. M. A.*, March 2, 1912, p. 633).

Cornutol is a biologically tested liquid extract of ergot. Dose, hypodermically, 0.65 to 2 c.c. (10 to 30 minims); by the mouth 0.65 to 4 c.c. (10 to 60 minims). The date of testing appears on each package. Cornutol is put up in 1 ounce vials and in ampules, each containing cornutol 2 c.c. (30 minims). H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, March 9, 1912, p. 701).

Digitol is a biologically and chemically standardized, fat-free tincture of digitalis, corresponding in drug strength to tincture of digitalis, U. S. P. Dose, 0.3 to 1 c.c. (5 to 15 minims). The date of testing appears on each package. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, March 9, 1912, p. 701).

Eucodin is methyl-codeine bromide, $C_{13}H_{21}O_3N(CH_3)Br$. It is easily soluble in water. It corresponds to 80 per cent. of codeine and to its own weight of codeine sulphate. It is said to be useful as a sedative as a substitute for codeine, especially in cough, where its action sometimes favors secretion. Dose, 0.06 gm. (1 grain).

Eucodin is also marketed in the form of tablets, each tablet containing eucodin 0.05 gm. (5-6 grain). Riedel & Co., New York (*Jour. A. M. A.*, March 16, 1912, p. 780).

Euscopol is optically inactive scopolamine hydrobromide $C_{17}H_{21}O_4N.HBr$. It is easily soluble in water and alcohol. It closely resembles the official scopolamine hydrobromide in its physical, chemical and pharmacologic properties. It is claimed to have a milder action because of the absence of other alkaloids said to be contained in the natural scopolamine hydrobromide. Riedel & Co., New York (*Jour. A. M. A.*, March 16, 1912, p. 780).

PHARMACEUTICAL PREPARATIONS OF ACCEPTED ARTICLES

Tablets, Oxyntin with Pepsin, each containing Oxyntin 0.3 gm. (5 grains) and pepsin equivalent to pepsin, U. S. P., 1 grain.

Capsules, Oxyntin with Nux Vomica, each containing Oxyntin 0.3 gm. (5 grains) and Nux Vomica equivalent to tincture Nux Vomica 0.33 c.c. (5 minims).

Capsules of Holadin, Bile Salts and Phenolphthalein, each containing Holadin 0.13 gm. (2 grains), Bile Salts, Fairchild, 0.03 gm. (½ grain), Phenolphthalein 0.065 gm. (1 grain).

Capsules of Holadin, Succinate of Soda and Bile Salts, each containing Holadin 0.20 gm. (3 grains), Sodium Succinate Exsiccated 0.20 gm. (3 grains) and Bile Salts, Fairchild 0.03 gm. (1-2 grain).

Capsules of Bile Salts, Succinate of Soda and Phenolphthalein, each containing Bile Salts, Fairchild 0.065 gm. (1 grain), Sodium Succinate, Exsiccated 0.20 gm. (3 grains), and Phenolphthalein 0.03 gm. (½ grain). (*Jour. A. M. A.*, March 16, 1912, p. 780).

MISCELLANEOUS

PUBLICATIONS ON THE HOT SPRINGS OF ARKANSAS

Two publications on the hot springs of Arkansas recently issued by the department of the interior—the first annual report of the medical director of the reservation and a circular of general information—are of interest to physicians because they deal with a health resort which has almost unrivaled therapeutic resources, but which has suffered to some extent from adverse social and medical conditions.

By act of April 20, 1832, congress provided that four sections of land in the territory of Arkansas including the springs, a total of 2,560 acres, should be reserved from sale or entry in order that they might be preserved in perpetuity for the benefit of the sick. When the state of Arkansas was created the federal government still retained the ownership of the four sections, but did not reserve the jurisdiction. By later acts the size of the reservation was reduced to 911 acres, the present area. All of the springs are on the government reservation, but there has grown up around them the city of Hot Springs, over which the government has no jurisdiction or control. The result was that the city of Hot Springs became what is known as a "wide-open" town. The result of the gambling which was carried on openly, the horse-racing, and the unethical practice of many local physicians in "drumming" for patients was that many persons returned to their homes thoroughly disgusted with the conditions. Fortunately these conditions have largely passed away. Gambling is no longer carried on openly, horse-racing has been discontinued, and the government has suppressed the practice of "drumming" by placing inspectors on all the trains. In September, 1910, the government took another great step by the appointment of a medical director to have full supervision of sanitation, hygiene, and all that pertains to the bathing of patients. Prior to this time the federal government's administration of the Hot Springs Reservation was conducted entirely under a superintendent, and in no instance had this official been a medical man, nor had there heretofore been any direct medical supervision over the operations of the bathhouses. The report of the medical director is the first official publication by the department of the interior dealing directly with the medical problems involved.

Under the supervision of the medical director considerable progress has been made in bettering those conditions that are of especial interest to practitioners of medicine. Two new sanitary bathhouses, fully equipped and provided with a complete blast system of ventilation, have been constructed at a cost of between $125,000, and $150,000 each, and a third has been entirely remodeled, enlarged, ventilated, and made sanitary in every respect. Under existing policies the twenty other bathhouses now operating will be remodeled or torn down and rebuilt as rapidly as is consistent with the maintenance of an uninterrupted service for the sick.

The report of the medical director gives an account of the problems with which that officer has to deal; the general circular contains information regarding the history of the resort, the government reservation, the city of Hot Springs, the pay bathhouses, the Army and Navy General Hospital, the government free baths, the character and action of the waters, and the rules relating to physicians.

SMALL-POX AND VACCINATION

During the first three months of 1912, there were reported 283 cases of small-pox in Michigan. The vaccination history of these cases is as follows:

2 cases vaccinated "50 or 60 years ago."
3 cases vaccinated "14 years ago."
1 case vaccinated "years ago."
1 case vaccinated "at the time of exposure."
1 case vaccinated "12 years ago."
1 case vaccinated "infancy and again 10 years ago."
1 case vaccinated "about 10 years ago."
1 case vaccinated "some 20 years ago."
1 case vaccinated "one week after exposure."
10 cases vaccinated "about 3 years ago" (some doubt).

1 case vaccinated "some years previous."
2 cases vaccinated "in childhood."
2 cases vaccinated "when very young."
1 case vaccinated "30 years ago."
2 cases vaccinated "6 years ago."
1 case vaccinated "2 years ago."
1 case vaccinated "4 years ago."
1 case vaccinated "5 years ago."
5 cases vaccinated "doubtful if ever."
245 cases "never vaccinated."

283 Total.

It costs Michigan $150,000 a year to take care of indigent small-pox patients and to protect the unvaccinated.

R. L. Dixon, Secretary.

GREATER HARPER HOSPITAL

On May 1 ground will be broken for the construction of the Buhl Building donated by the heirs of Theodore D. Buhl. This building will cost $100,000, will be 80 feet square and will contain, in the basement, baths and all compliances for mechano-, hydro- and electro-therapy. The first and second floors will be devoted to the out-patient department, the first floor being the waiting room, offices, medical and medical specialty clinics. The second floor will be devoted to the surgery and surgery specialty clinics. The third floor, at present, will be a flat for 20 interns including an assembly room, library, bath and all conveniences. This floor will be so arranged that at a future date it may, if desirable, be turned into a research laboratory. The fourth floor will be devoted to clinical and research laboratories. The fifth floor will be devoted to animal experiment work and operations.

The work of the construction of the Service Building and Surgical Pavilion of the new Hospital is now one-half completed. The service building is designed for the accommodation of 600 patients. The surgical pavilion will provide for 200 beds. As soon as the present construction is completed work will begin on the Medical Pavilion and Administration Building. The Medical Pavilion will accommodate 200 beds. Then the present Hospital will be razed and the private patient department, also 200 beds, will be constructed on John R. Street. The total cost of these various buildings will amount to $1,000,000 and will give Detroit a Hospital adequate in size, and one of which she may well be proud. It will place Detroit on the Map in the matter of Hospital facilities. The new out-patient department and research laboratory will be a distinct advantage in clinical teaching.

The administration of the Hospital is unique. There is a lay board of trustees and a Medical Board, each consisting of five members which sitting jointly will have charge of the administration of the Hospital. The Medical Board is composed of the Chief of the first (General) Surgical Department, Chief of the second (Special) Surgical Department, the Chief of the Medical Department, the Chief of the Ophthalmological, etc., Department and the Chief of the Pathological Department. Dr. H. O. Walker was Chief of this Medical Board but upon his death was succeeded by Dr. C. G. Jennings. Further unique provision of the medical board is that the Chiefs of the various departments are to be appointed each year and not more than four of the five may be reappointed in any one year. The object being to secure a rotation in office as regards the administration management, there being several in each staff who might be considered eligible for Chieftainship.

INSURANCE EXAMINATION FEES

Insurance companies doing business in Michigan who are paying the flat $5 rate for examinations:

Aetna, Hartford, Conn.
American Central, Indianapolis, Ind.
American Bankers, Chicago, Ill.
Banker's Reserve, Omaha, Neb.
Berkshire, Pittsfield, Mass.
Connecticut Mutual, Hartford, Conn.
Equitable Assurance, New York.
Germania, New York.
Hartford Life, Hartford, Conn.
John Hancock Mutual, Boston, Mass.
Manhattan, New York.
Massachusetts Mutual, Springfield, Mass.
Mutual, New York.
Mutual Benefit, Newark, N. J.
National, Montpelier.
New England Mutual, Boston, Mass.
Northwestern Mutual, Milwaukee.
Pacific Mutual, Los Angeles.
Penn Mutual, Philadelphia.
Phoenix Mutual, Hartford, Conn.
Provident Life and Trust, Philadelphia.
Reliance Life, Pittsburgh, Pa.
State Mutual, Worcester, Minn.

We would be glad of any information that will keep this list correct.

SURGICAL SUGGESTIONS

[From *American Journal of Surgery*]

Vesical calculus is very common among the Chinese, appendicitis very rare.

Creeping infants may gather wood splinters or needles in their hands or knees and abscesses in these localities should suggest such an etiology.

When it causes suppuration, a foreign body is usually easily found; but if there be difficulty in locating it, it is better to be content with drainage for a few days rather than expose uninfected areas by a prolonged search.

A subcuticular whitlow is often the superficial expression of a deep infection. After removing the raised epidermis carefully inspect the tissue beneath for a small opening. If this is neglected the process may speedily advance to the tendon sheath.

When dealing with a sliding hernia don't attempt to separate the large bowel from the sac: this attachment carries the blood-supply of the gut. Free the sac, not the intestine, and reduce with the bowel as much of the sac as is attached to it.

Active hemorrhage from a gastric ulcer is rarely fatal; the weight of evidence indicates that it is better to operate after than during the bleeding. Active hemorrhage from a duodenal ulcer is often fatal; operate as soon as the diagnosis is made.

Gastro-enterostomy should not be performed unless there is, or is deliberately made, an obstruction in the duodenum or at the pylorus. If these remain, or become patent, the food will not be diverted through the artificial channel.

A needle fragment in the fleshy palm, where the muscles are compact and in more or less constant activity, will be displaced more in a few hours than one in the sole of the foot, where the intrinsic muscles are deeper, less compactly disposed and less active, and where, also, the dense plantar fascia sometimes holds the needle.

In the palm, foreign bodies, by reason of the direction of the thrust, often point toward the dorsum, and in a general way toward the center of the wrist: and such movements as they undergo by muscular contractions carry them further in those directions.

The sooner a hollow bone is opened in acute osteomyelitis, the less will be the destruction of bone.

In intestinal obstruction, it is not the operation that is to be feared, but the delay in operation.

When there is disagreement between the pulse and temperature, the pulse must be regarded as of the greater importance.

A felon should be aborted by covering the end of the finger with cotton saturated with alcohol, and then excluding the air by drawing over all a rubber finger cot.

When Kocher's method fails to reduce a recent dislocation of the shoulder, it is usually because the surgeon has proceeded too rapidly. Deliberately is the only way to work quickly.

Traumatic aneurysm, after temporary clamping of the artery, can often be treated by suture if the surgeon goes about it deliberately, when at first impression the case seemed to demand ligation and obliteration of the vessel.

A ligature should not be placed on the carotid too near the bifurcation lest the clot which forms shall not have sufficient surface to which to adhere and become detached and swept to the brain.

If the surgeon desires to discover carcinoma of the cervix in a curable stage women past middle life must be examined periodically, for to wait until symptoms appear is often to discover the disease too late.

In injuries to the cord, if the tendon reflexes are preserved, even slightly, the surgeon may exclude complete and irremediable severance of the cord; but the total loss of these reflexes during the first few days is not conclusive, as the loss may be transitory.

In performing external esophagotomy, the trachea is the guide for finding the esophagus. It is easy to remember that there is nothing but the esophagus between the trachea and vertebral column.

MEMBERS IN ARREARS

"Your Committee recommends that on May 1 of each year THE JOURNAL of the State Society be discontinued to all subscribers and members in arrears, and that such members be reported to the secretary of the American Medical Association as "dropped for non-payment of dues." — *Report of Business Committee unanimously adopted by House of Delegates, Sept. 29, 1910.*

"We recommend the publishing in the May JOURNAL each year the names of all members still in arrears April 15 for current dues."—*Report of Business Committee unanimously adopted by the House of Delegates, Sept. 28, 1911.*

In accordance with the foregoing resolutions we publish herewith the names of all those who, according to the secretary's books, were delinquent on April 15:

Alpena County Medical Society

No delinquents.

Antrim County Medical Society

Long, Chas., Elk Rapids.

Barry County Medical Society

Fuller, D. E., Hastings.
Gallagher, R. V., Battle Creek.
Lowry, G. W., Hastings.
McIntyre, C. S., Woodland.
Mohler, C. D., Hastings.
Rigterink, J. W., Freeport.
Ryan-Roehrig, Alice M., Hastings.
Russel, C., Kansas City.
Sheffield, F. G., Hastings.
Shilling, F. F., Nashville.

Bay County Medical Society

Hammond, L. C., Bay City.
Stone, A. T., Bay City.
Stone, D. F., Bay City.
Trumble, G. W., Bay City.
Urmston, Paul R., Bay City.
Zaremba, A. J., Bay City.

Benzie County Medical Society

No delinquents.

Berrien County Medical Society

Belknap, F. R., Benton Harbor.
Curtis, Orville, Buchanan.
Gowdy, F. M., St. Joseph.
Helkie, W. L., Three Oaks.
McKenzie, J. C., New Buffalo.
Merritt, C. M., St. Joseph.
Scott, A. H., St. Joseph.
Sowers, C. N., Benton Harbor.

Branch County Medical Society

Culver, B. W., Coldwater.
Sears, Carl, Quincy.
Turner, S. R., Batavia.

Calhoun County Medical Society

Adair, R. T., Battle Creek.
Barnhart, Samuel E., Battle Creek.
Elliott, J. A., Battle Creek.
Foster, I. C., Albion.
Gething, J. W., Battle Creek.
Hoyt, A. A., Battle Creek.
Hobbs, E. J., Galesburg.
Kellogg, J. H., Battle Creek.
MacGregor, Arch. E., Battle Creek.
Pearce, H. R., Battle Creek.
Parmeter, E. L., Albion.
Powers, H. A., Battle Creek.
Putnam, W. N., Battle Creek.
Read, A. J., Battle Creek.
Risley, E. H., Loma Linda, Cal.
Ryan, C. W., Battle Creek.
Shipp, W. S., Battle Creek.
Shurtleff, H. A., Marshall.
Van Camp, E., Athens.
Vandervoort, L. E., Battle Creek.
Zelinsky, Thos., Battle Creek.

Cass County Medical Society

Irwin, D. H., Marcellus.

Charlevoix County Medical Society

Armstrong, R. B., Charlevoix.
Sweet, Chas., East Jordon.

Cheboygan County Medical Society

MacGregor, A. B., Cheboygan.

Chippewa County Medical Society

Maloney, F. J., Sault Ste., Marie.
Rogers, T. N., Sault Ste. Marie.
Ross, Zimmerman, St. Ignace.

Clinton County Medical Society

Dunn, F. C., St. Johns.

Delta County Medical Society

Bjorkman, Geo., Gladstone.
Laing, A. L., Rapid River.
Summerbell, F., Nahma.

Dickinson-Iron County Medical Society

Alving, Otto, Iron Mountain.
Brasseur, J. B., Norway.
Budde, Alfred E., Big Food Prairie, Ill.
Darling, A. M., Crystal Falls.
Larson, F., Crystal Falls.
McBurney, W. M., Stainbaugh.
Newkirk, H. A., Iron Mountain.
Thomas, A. H., Ironwood.

Eaton County Medical Society

Knight, F. J., Charlotte.
Stimson, C. A., Eaton Rapids.

Emmet County Medical Society

Hicks, A. R., Harbor Springs.
Runyan, E. A., Harbor Springs.

Genesee County Medical Society

Charles, Henry L., Swartz Creek.
Cogshall, Bela, Flint.
De Somoskeoy, V. H., Flint.
Gillett, Jesse, Flint.
McCormick, W. H., Flint.
McDonald, C. F., Goodrich.
McGregor, J. C., Flint.
Pearson, C. B., Baltimore, Md.
Switzer, A. M., Fenton.
White, P. E., Clio.
Wright, A. G., Fenton.

Gogebic County Medical Society

Conley, W. C., Ironwood.

Grand Traverse County Medical Society

Carrow, Flemming, Traverse City.
Fenton, G. L., Kingsley.
Gauntlett, J. W., Traverse City.
Johnson, Guy, Traverse City.
Martin, J. B., Traverse City.
Moon, W. E., Traverse City.

Gratiot County Medical Society

No delinquents.

Hillsdale County Medical Society

Allegar, W. E., Pittsford.
Frazier, H. H., Moscow.

Martindale, E. A., Hillsdale.
Stoner, I. J., Osseo.
Whelan, B., Hillsdale.

Houghton County Medical Society

Abrams, J. C., Calumet.
Abrams, E. T., Dollar Bay.
Anderson, A. H., South Range.
Arminen, K. V., Duluth, Minn.
Betteys, W. H., Houghton.
Bourland, P. D., Lake Linden.
Clark, J. W., Calumet.
Conrad, G. A., Houghton.
Dodge, W. H., Hancock.
Farnham, L. A., Pontiac.
Jackson, W. S., Houghton.
Joy, H. M., Calumet.
La Berge, A. T., Calumet.
Lambert, O. B., Escanaba.
Lee, S. S., Osceola.
Maas, R. J., Houghton.
McDonald, N. S., Hancock.
Macqueen, D. K., Laurium.
Matchette, W. H., Hancock.
MacRae, John, Calumet.
Mills, A. B., Calumet.
Orr, G. W., Lake Linden.
Rhines, James, Mohawk.
Roche, A. C., Kearsarge.
Tucker, A. R., Mohawk.
Turner, J. G., Houghton.
Vercellini, C. E., Calumet.
Yarrington, C. W., Calumet.

Huron County Medical Society

Corcoran, J. S., Ubly.
Francis, A. M., Port Austin.
Johnston, Henry, Caseville.

Ingham County Medical Society

Robertson, Perry C., Ionia.
Thomas, F. E., Mason.
Wetmore, Mary, Bellingham, Wash.

Ionia County Medical Society

Allen, T. R., Ionia.
Barnes, W. L., Atlanta, Ga.
Beckwith, E. F., Ionia.
Dorr, F. W., Belding.
Peabody, Chas. H., Lake Odessa.
Snyder, E. M., Lake Odessa.

Isabella County Medical Society

No delinquents.

Jackson County Medical Society

Leece, Robert H., Munith.

Kalamazoo Academy of Medicine

Barnabee, J. W., Kalamazoo.
Bartholemew, C. A., Martin.
Bernstein, E. J., Kalamazoo.
Bills, W. H., Allegan.
Bosman, J. W., Kalamazoo.
Bulson, G. A., Vicksburg.
Butler, P. T., Kalamazoo.
Chase, Milton, Otsego.
Clark, L. E., Otsego.
Cronk, Fred J., Guthrie, Okla.
Cornish, G. W., Lawton.
Den Blyker, W., Kalamazoo.
Giddings, A. M., Youngstown, Ohio.
Grant, F. E., Kalamazoo.
Heasley, H. W., Burnyps Corners.
Hutton, A. M., Oshtemo.
Lang, W. W., Kalamazoo.
Lewis, H. F., Chicago, Ill.
Leighton, N. E., Hopkins Station.
Light, S. R., Kalamazoo.
Maxwell, J. Chas., Paw Paw.
Myers, C. M., Dowagiac.
Osborn, Don P., Kalamazoo.
Onontiych, P., Plainwell.
O'Dell, J. H., Kalamazoo.
Osmun, E. D., Allegan.
Pitz, H. R., Bradley.
Robinson, A. L., Allegan.
Rogers, L. V., Galesburg.
Shepard, B. A., Kalamazoo.
Smith, Malcolm, Allegan.
Stewart, J. D., Hartford.
Upjohn, W. E., Kalamazoo.
Walker, B. D., Kalamazoo.
Webster, Ben, Tracy, Ind.
Welsh, F. J., Kalamazoo.

Kent County Medical Society

Annis, L. C., Cedar Springs.
Apted, Ralph, Grand Rapids.
Baert, Geo., Grand Rapids.
Bassett, M. G., Grand Rapids.
Bayer, Herman, Saginaw.
Berge, F. E., Grand Rapids.
Bloodgood, J. C., Grand Rapids.
Brady, John, Grand Rapids.
Breece, R. C., Ada.
Cardwell, J. F., Grand Rapids.
Catlin, H. W., Grand Rapids.
Chappell, G. H., Grand Rapids.
Chappell, L. E., Grand Rapids.
De Coux, R. H., Grand Rapids.
De Kraker, J. M., Grand Rapids.
De Pree, P. J., Grand Rapids.
De Vore, J. A., Grand Rapids.
Dingman, H. W., Grand Rapids.
Edie, J. O., Grand Rapids.
Edwards, J. S., Grand Rapids.
Fabian, J. J., Grand Rapids.
Fairbanks, C. H., Grand Rapids.
Fuller, R. W., Grand Rapids.
Fuller, Wm., Grand Rapids.
Graybiel, A. G., Caledonia.
Heasley, J. A., Grand Rapids.
Hilliker, J. B., Grand Rapids.
Hirschberg, Frieda, Grand Rapids.
Hodgen, John T., Grand Rapids.
Holcomb, J. N., Grand Rapids.
Hooker, C. E., Grand Rapids.
Hutchinson, R. J., Grand Rapids.
Innis, J. H., Grand Rapids.
Kassabian, N. H., Coopersville.
Kelly, C. M., Grand Rapids.
Kenning, J. C., Grand Rapids.
Kinsey, F. C., Grand Rapids.
Locher, H. E., Grand Rapids.
McDonnell, O. C., Lowell.
Miller, P. S., Grand Rapids.
O'Keefe, T. B., Grand Rapids.
Pyle, H. J., Grand Rapids.
Read, L. C., Grand Rapids.
Roberts, M. E., Grand Rapids.
Robertson, F. D., Grand Rapids.
Rogers, John R., Grand Rapids.
Rooks, J. J., Grand Rapids.
Sarber, H. O., Rockford.
Schurtz, Perry, Grand Rapids.
Slemons, Clyde C., Grand Rapids.
Urquart, R. T., Grand Rapids.
Vis., Edward W., Grand Rapids.
Wallace, D. J., Sparta.
Webb, Rowland, Grand Rapids.
Weaver, Chas. E., Grand Rapids.
Wright, J. M., Grand Rapids.
Young, R. A., Moline.

Lapeer County Medical Society

Blake, Wm., Lapeer .
Chamberlain, G. L., Lapeer.
Chapin, C. D., Columbiaville.
Frazier, J. V., Lapeer.
Haynes, H. O., Lapeer.
Marsh, P. E., Otter Lake.
May, Robt. J., Metamora.
McCausland, M. B., Imlay City.
O'Brien, D. J., Lapeer.
Robinson, Wm. J., Lapeer.
Wisner, C. A., Columbiaville.

Lenawee County Medical Society

Clemes, W. T., Blissfield.
Colbath, W. E., Fairfield.
Hendershot, E. E., Tecumseh.
Morden, W. S., Macon.
Nixon, J. W., Holloway.
Wagner, G. W., Adrian.
Westgate, Clarence, Weston.

Livingston County Medical Society

No delinquents.

Macomb County Medical Society

Greenshields, Wm., Romeo.
Greenshields, R., Romeo.
Moriarity, E. H., Mt. Clemens.
Parkin, R. L., Romeo.
Scott, F. A., Washington.
Wiley, H. H., Utica.

Manistee County Medical Society

Kelley, F. J., Address unknown.

Marquette-Alger County Medical Society

Bergeron, G. D., Negaunee.
Gordeau, A. E., Ishpeming.
Lindgren, Ilmar, Ishpeming.
O'Brien, S. J., Grand Marais.
Toms, C. B., Seney.

Mason County Medical Society

Force, Wm. Howard, Ludington.

Mecosta County Medical Society

No delinquents.

Menominee County Medical Society

Charles, C. H., Goodman, Wis.
Mason, Stephen C., Hermansville.

Midland County Medical Society

Dougher, E. J., Midland.

Monroe County Medical Society

No delinquents.

Montcalm County Medical Society

Avery, John, Greenville.
Bachman, N. E., Stanton.

Muskegon County Medical Society

Ayling, G. H., Minooka, Ill.

Newaygo County Medical Society

Denike, A. James, Hesperia.
Geerhlings, W., Reeman.
Whitehead, Chas., Newaygo.

Oakland County Medical Society

Bird, J. T., Clarkston.
German, F. D., Franklin.
Greene, E. C., Foxborough, Mass.
Johnson, Fred L., Holly.
Lockwood, F. W., South Lyon.
Manley, Ora, Highland.

O. M. C. O. R. O. County Medical Society

Harris, L. A., Gaylord.
Kiehl, H. B., Rose City.
Lister, Geo. F., Hilman.

Ontonagon County Medical Society

Cox, A. H., Winona.
Rumph, C. L., Green Bay, Wis.

Osceola-Lake County Medical Society

Barnard, T. H., Tustin.

Ottawa County Medical Society

Dowker, A. E., Goodrich, North Dakota.
Mabbs, J. A., Allegan.
Mowers, J. H., Fennville.
Peppler, J. F., Byron Center.
Thomas, G. H., Holland.
Van Den Berg, J. W., Holland.
Walling, J. S., Coopersville.

Presque Isle County Medical Society

Campbell, Alex. W., Posen.
Larke, B. G., Rogers City.
Monroe, Neil C., Millersburg.

Saginaw County Medical Society

Beckwith, B. H., Saginaw.
Bell, G. A., Saginaw.
Bradley, N. R., Saginaw.
Brock, W. H., Saginaw.
Bruce, J. D., Saginaw.
Crane, B. F. A., Saginaw.
Curtis, E. E., Saginaw.
Ferguson, G. H., Saginaw.
Florentine, F. B., E. Eaginaw.
Freeman, F. W., Saginaw.
Grigg, A., E. Saginaw.
Harris, Leon B., Saginaw.
Kanzler, Karl, Saginaw.
Longstreet, Martha, Saginaw.
McLandress, J. A., Saginaw.
McMeekin, J. W., Saginaw.
Pierce, Franklin S., Beaverton.
Rogers, A. S., Saginaw.
Sample, C. H., Saginaw.
Stewart, G. W., Saginaw.

Sanilac County Medical Society

Dick, W. K., Applegate.
Simenton, George, Marlette.

Schoolcraft County Medical Society

No delinquents.

Shiawassee County Medical Society

Bailey, E. H., Corunna.
Bailey, A. L., Chesaning.
Cramer, G. L. G., Owosso.
Cudworth, Linn M., Perry.
Eldred, J. N., Chesaning.
Elliott, E., Chesaning.
Fritch, O. B., New Lathrop.
Gooding, A. S. H., Owosso.
Harper, W. I., Byron.
Hiltz, P. D., Birmingham.
Hixon, L. D., Durand.
Johnstone, E. R., Bancroft.
Parker, W. T., Corunna.
Phippen, S. S. C., Owosso.
Ruggles, F. S., Byron.
Stewart, L. B., Chesaning.
Van Liew, V. C., Lennon.
Watts, F. M., Owosso.

St. Clair County Medical Society

Bostwick, Walter E., Algonac.
Dunn, R. J. Port Huron.
Ross, George, Capac.

St. Joseph County Medical Society

No delinquents.

Tri County Medical Society

No delinquents.

Tuscola County Medical Society

No delinquents.

Washtenaw County Medical Society

Barrett, A. M., Ann Arbor.
Baskett, L. W., St. Peter, Minn.
Britton, H. B., Ypsilanti.
Burr, Thomas S., Lewisport, Newfoundland.
Crawford, Katherine L., San Francisco, Cal.
Gates, N. A., Ann Arbor.
Haythorn, S. R., Pittsburgh, Pa.
Joyce, T. M., Rochester, Minn.
Kositcheck, Sol. B., Chicago, Ill.
Keating, J. W., Ann Arbor.
Kline, G. M., Danvers, Mass.
Lane, C. S., Whitmore Lake.
Merkel, Chas. W., Springport.
Noble, Kenneth, Milan.
Oberlin, Emily Myers, Philadelphia, Pa.
Plummer, R. C., Ann Arbor.
Pearson, H. J., Ann Arbor.
Rexford, Walter K., Powell River, B. C.
Sample, John T., Baltimore, Md.
Woods, John Thomas, Chelsea.

Wayne County Medical Society

Address, Detroit, unless otherwise stated.
Abbott, A. W., 266 Putnam Ave.
Agnelly, E. J., 552 Dix Ave.
Ames, J. W., 157 Gratiot Ave.
Arndt, O. H., 6 Jay St.
Baker, W. L., 1159 39th Ave.
Baruch, J. B., 334 Fort St. E.
Baskerville, R. J., 401 Washington Arcade.
Bell, Samuel, Gas Co. Bldg.
Blodgett, W. E., 602 Fine Arts Bldg.
Boylan, W. M., 92 Westminster Ave.
Brownell, W. S., 270 Woodward Ave.
Carmichael, R. H., Hamtramck.
Cooper, J. M., 610 Fine Arts Bldg.

Courville, C. W., 316 Grand River Ave.
Delbridge, J. J., 894 Woodward Ave.
Duggan, G. S., 118 Elm Street.
Fenner, W. A., 1425 Mac Ave.
Fischer, O. E., 507 Field Ave.
Fisher, G. A., 106 Broadway.
Gailey, J. K., 415 Washington Arcade.
Garner, H. B., Gas Office Bldg.
Gratton, J. H., 182 Chene.
Griffith, A. J., 698 Roosevelt Ave.
Grimes, Wm. S., 42 Clifford St.
Harris, George C., 543 Trumbull Ave.
Harrison, J. W., 429 E. Grand Boulevard.
Harvey, John G., 211 Stevens Bldg.
Haskins, Mary G., 270 Woodward Ave.
Henderson, E. W., 846 Vermont Ave.
Hensel, R. D., 111 Park St.
Herbert, Leo. H., 2225 W. Jefferson Ave.
Hislop, R., 752 Grand River Ave.
Honor, W. H., Wyandotte.
Howard, J. J., 705 Morrell Ave.
Hubel, John T., Ray Court Apt.
Hurst, Alice, 172 Bethune Ave. W.
Ives, A. W., 608 Gas Co. Bldg.
Johnson, A. H., 717 Rivard St.
Judd, C. H., 32 Adams Ave. W.
Kenning, Thos., 218 Vinewood Ave.
Kipp, A. W., 31 W. High St.
Lawton, T. M., 669 Trumbull Ave.
Layton, M. A., 1980 Fort St. W.
Leiman, Richard, 1672 Gratiot Ave.
Leonard, C. B., 608 Washington Arcade.
Loranger, P. J., 383 CantonAve.
Maguire, F. J. W., 778 Jefferson Ave.
McClurg, David, 2795 Woodward Ave.
McCormick, F. T., 232 Smith St.
McDonald, F. J., 1491 Woodward Ave.
McEachern, A. D., 250 W. Fort St.
McFall, Guy H., 503 Washington Arcade.
McMahon, H. O., 106 Broadway.
Merritt, E. D., 409 Washington Arcade.
Millard, Frank A., 271 Woodward Ave.
Morley, C. H., 747 Woodward Ave.
Muenz, Carl F., 365 Kercheval Ave.
Neary, J. H., 654 Grandy Ave.
Pilcher, F. E., 1940 GrandBlvd.
Radzuiski, A. J., 1519 Michigan Ave.
Raible, H. F., 510 Joseph Campau Ave.
Reilly, Frank A., 930 Trumbull Ave.
Roberts, F. J., 1500 Chene.
Robinson, Gilbert, 1520 Chene St.
Rothschild, Douglas, 509 Breitmeyer Bldg.
Sanderson, Phil. G., 270 Woodward Ave.
Schnell, A. C., 168 Kercheval Ave.
Scriber, Geo. H., 1112 Mt. Elliott Ave.
Sherman, A. T., 205 Trumbull Ave.
Sherrill, E. S., 270 Woodward Ave.
Sill, Joseph, 41 Warren Ave.
Starrs, F. C., 250 15th St.
Steinbrecher, A. H., 410 Woodward Ave.
Toepel, O. T., 466 Joseph Campau Ave.
Wallace, H. I., 32 Adams Ave. W.

MEDICAL FREEDOM

The "Medical Freedomites" have again attempted to show that the American Medical Association is trying to corner the healing market of the United States. Judging from their advertising matter, it would seem that each member of the A. M. A. is a villain trying to prevent any but the members from applying means of healing. They then apologetically state that they do not refer to local physicians, all of whom they respect and honor.

To decry the American Medical Association is to decry most of the best physicians of America, since the majority of the leading physicians in every community are members of the A. M. A., and do have something to say about its management.

The A. M. A. is *our* Society, and we are proud of it because of the high standards for which it contends. It has always tried to put down that which is inferior and worthless in the line of healing or health and support those things which been proved scientifically to have value. It has done more to raise the standard of medical education than any force in America. *It has discriminated against no college or creed which has shown itself willing to put its institution on a plane worthy of recognition.* It has encouraged and helped many weak medical schools to raise their standards and become efficient. When it demands so much in preparation for its own members, why should it not decry in bold terms all those insufficiently prepared who try to foister themselves on the public as equal in ability to those who have been trained. When local citizens decry the A. M. A. they only help to tear down high standards of scientific investigation and put in its place substitutes which are unworthy the endorsement of our citizens.—*Bulletin* Kalamazoo Academy of Medicine.

The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

Vol. XI BATTLE CREEK, MICHIGAN, JUNE, 1912 No. 6

ORIGINAL ARTICLES

THE TREATMENT OF DIPHTHERIA BACILLI CARRIERS

M. L. HOLM, M.D.
Bacteriologist to Michigan State Board of Health
Lansing, Mich.

During recent years the treatment of diphtheria appears to have become so thoroughly established that the subject no longer merits discussion either at medical meetings or in our standard journals. At the present writing, however, this is far from being the case with the diphtheria bacilli carrier. The fact is well recognized that if diphtheria is to be effectively controlled more attention must be given to the carriers.

In the large communities such carriers are constantly present prepared to kindle sparks of increased susceptibility into the flames of an epidemic.

Epidemiologists have observed that frequently diphtheria cases have been introduced into different localities without any spread although opportunities for such spread existed which, so far as could be judged, were as great as those which in other instances were followed by rapid spread of infection. This indicates that the presence or absence of diphtheria bacilli can hardly be regarded as exhausting the explanation of the occurrence or non-occurrence of diphtheria epidemics. Diphtheria epidemics are usually accompanied by a marked increase in the number of non-diphtheritic affections of the throat, further indicating that certain conditions are capable of increasing general susceptibility to throat affections and that it is at such times that diphtheria is most likely to spread.

Diphtheria bacilli carriers may be divided into two types: first, those who have recently suffered from the disease; second, contacts who have become infected but have not shown symptoms of diphtheria. A person having recovered from diphtheria may retain virulent diphtheria bacilli in his or her mouth or nose for anywhere from a few days to several months. In a majority of the cases morphologically typical diphtheria bacilli will disappear within two weeks after the throat becomes normal, but the number that exceeds this period is considerable and deserves more than passing notice. Persons with low susceptibility to diphtheria toxins may become infected with diph-

theria bacilli and carry the infection for a variable period without showing symptoms of diphtheria.

The discovery of a healthy diphtheria bacilli carrier at a time when there is little or no diphtheria in the community is not regarded by epidemiologists as being of much importance. The patient should be instructed in the prophylaxis of diphtheria and efforts should be made to hasten the disappearance of the bacilli but isolation or quarantine measures would hardly be indicated and would be impracticable.

At times when diphtheria is prevalent, however, infected contacts and convalescent carriers are of greater importance. At such times it is evident that conditions favoring the spread of diphtheria are present and healthy carriers are at least as important in controlling the infection as those sick with the disease.

Since the discovery was first made that diphtheria bacilli remain in the throat after the clinical lesions have disappeared, efforts have been directed toward hastening their departure by various methods. Many practitioners still seem to believe that the bacilli are affected by injections of antitoxin and it is largely for the purpose of dispelling this erroneous idea that this paper has been written. Antitoxin not only does not affect the diphtheria bacilli themselves, but the injection of frequent doses of antitoxin at intervals extending over prolonged periods may so sensitize the patient to horse serum as to be positively dangerous. Numerous antiseptics have been recommended for use in various forms as sprays, gargles, inhalations and as direct applications to the lesions. Such antiseptic treatment is of benefit in limiting the power of infecting others by its action on the superficial bacilli but experienced observers have concluded that the period in which the patient remains a carrier is not materially shortened and it appears that in some cases at least the period has unquestionably been prolonged. Injections of diphtheria bacilli bacterins and local applications of serum from horses injected with living or dead diphtheria bacilli have been tried with some apparent success; but none of these methods have come into general use.

Special attention should be given to unhealthy tonsils, adenoids or nasal growths. Such tissue may at times harbor diphtheria bacilli for prolonged periods. Pegler (1905) reported that he "had several times found that the cause of the lingering presence of diphtheria bacilli could be removed by carefully extirpating every trace of unhealthy tonsil tissue in which crypts could be discovered. In other cases he had found adenoid or nasopharyngeal tonsillar tissue to be the offending cause of the trouble."

It has occasionally been noticed that, following inflammatory lesions due to some other agent than the diphtheria bacilli, these organisms have disappeared from the throats. This brings to our attention the well-known principles of antibiosis which have been applied in the treatment of several other bacterial conditions. It has been recommended that the mouth be sprayed with suspensions of staphylococci in pure culture and favorable results have been reported from this procedure. The method undoubtedly is worthy of further trial. We have tried to make cultures of mixed bacteria from a normal mouth to be used in the same way. Good results have been reported from the use of such cultures; but our idea, which was to spray with a culture representing the normal bacterial flora of the mouth, has been abandoned because there appears to be no artificial culture medium which will grow more than a small proportion of the various bacterial species found in the normal mouth.

Apparently there is within certain limits what might be termed a normal bacterial flora for the mouth. These various bacterial species growing symbiotically and maintaining a saprophytic existence undoubtedly afford a certain amount of antagonism against the invasion of foreign organisms. When a diphtheria infection occurs the normal flora is destroyed either wholly or in part during the acute stages of the disease. After recovery the normal flora is gradually reestablished and the diphtheria bacilli disappear. If through vigorous use of antiseptics the restoration of the normal mouth bacteria be retarded, typical morphologic forms of diphtheria bacilli may persist for very long periods. Thus in several instances the swabs from recovered patients have given nearly pure cultures of *Bacillus diphtheriæ* for months after the throats had apparently become normal. In these cases when antiseptics were discontinued and the throats inoculated from a normal mouth the normal flora has been reestablished and diphtheria bacilli have promptly disappeared. The method employed is to inoculate a sterile swab from a normal mouth and rub it over the mucous membrane of the mouth and pharynx of the carrier. No mouth wash should be used for at least six hours after such treatment and after that time the mouth washes used should not be antiseptic. On the second day a swab should be taken for culture and examination. If positive, the process should be repeated, etc.

Our experience with this method has been very favorable and it appears to be well worthy of further trial. The chief objection to its use is the danger of transferring other infections and this should be very carefully guarded against. When cultured bacterial suspensions are used. this danger is obviated and if practical experience should indicate that equally good results may be obtained by use of cultures, the advantage is worthy of consideration.

913 Allegan Street, West.

RECENT ACTIONS OF MICHIGAN STATE BOARD OF HEALTH

1. The engagement of Edward D. Rich, Professor of Sanitary Engineering, Ann Arbor, to inspect the Michigan summer resorts. The board will insist on the establishment of sanitary principles in each instance. Special consideration will be taken of the water-supply and the disposal of garbage, sewage, etc.

2. A complete survey and investigation of public water-supplies will be begun immediately. A competent engineer will be given charge of this work. Samples of water from each supply will be examined in the State Board of Health Laboratory.

3. May fifteenth was set by proclamation of Governor Osborn as "Public Health and Clean-Up Day in Michigan." The plan has been taken up by a great many towns and cities and was undoubtedly well worth while.

4. The investigation of the extent. distribution and causes of feeble-mindedness, which has been conducted by Miss Adele McKinnie during the past six months. will be continued another six months. Miss McKinnie is a trained investigator in that line and is doing the department an excellent service.

5. State convention of health officers and others interested in public health work met at Ann Arbor, May 22 and 23.

6. A hotel inspector has been put into the field. He represents the Departments of Labor, Dairy and Food, and Health and so carries a great deal of authority.

7. The next examination for embalmers will be held July 10, 11 and 12 at Lansing, Michigan.

8. Dr. R. L. Dixon, secretary, has been delegated to represent the Board at the National Anti-Tuberculosis Congress, the Surgeon General's Conference, the Meeting of the American Medical Association, and the International Congress on Hygiene and Demography.

RÉSUMÉ OF TYPHOID FEVER AND ITS TREATMENT, BASED ON FOUR HUNDRED CASES OCCURRING IN SOUTH HAVEN'S EPIDEMICS*

F. C. PENOYER, M.D.
South Haven, Mich.

Typhoid fever is a subject so extensive that any one of a dozen points in the disease would give us material for an afternoon's discussion. Hence you can appreciate my difficulties in trying to bring to you anything that is not a rehash of typhoid experiences. I only hope to bring up some of the salient points in the disease as they appear to a busy practitioner at the bedside.

Typhoid fever is a general infection due to the *Bacillus typhosus*. The disease varies greatly in different epidemics and in different individuals. Cole is authority for the statement that it may last only a few days, and be associated with very little or no fever, or on the other hand there may be a continuous fever of great intensity lasting from six to twelve weeks or even longer. It has been shown that all of the clinical features of typhoid fever may be induced by the paratyphoid, or paracolon bacillus. These two conditions cannot be differentiated by clinical conditions alone, and many of our authors think it safer to treat both diseases alike. Two cases in my practice exhibited typical typhoid symptoms, with temperature rising 1 degree each day for a week, when it was 104 degrees. In both cases nurses were employed and on the seventh day temperatures became normal. Two other typical cases with less fever gradually became normal in seven days. These cases, through errors in following routine, relapsed and ran a continuous fever of great severity for many weeks. From bitter experience I have learned to care for these abortive forms during convalescence as thoroughly as the true cases. It seems as though the difference between the two forms is of no clinical consequence and thorough care should be exercised in convalescence from even the fevers of a few days' duration that have marked typhoid symptoms.

Someone has said that "typhoid fever is a crime." I appreciate the responsibility resting on me and am chagrined at the amount of typhoid in South Haven, although the physicians all have vigorously stated for ten years that it came from drinking the lake water. I am glad to say here that we will have a good supply of water from deep wells this spring. A few years ago the government appointed a commission to investigate the water of our Great Lakes. This commission reported that at times the whole body of water in the south end of Lake Michigan and Lakes Erie and Ontario was contaminated by colon bacilli. We are calling attention to the fly as carrier of infection, to the milk routes and to the so-called typhoid carriers, but I do not believe the profession realize the part that the Great Lakes play in the typhoid infection of this region.

We see reports at various times of epidemics of typhoid in South Haven, St.

* Read before the Kalamazoo Academy of Medicine, Jan. 10, 1912.

Joseph, Evanston, Muskegon, Escanaba, etc. These are due to the infected city water-supply, as we all know, but how many cases in cities miles distant from these points are there that come from these cities' water contaminations — these cases in turn becoming danger points of infection by flies or otherwise. I have known of at least fifty cases in surrounding country that come from drinking our city water. Cases in Covert — 9 miles south, and in Glenn — 10 miles north. This last summer I knew of two cases that returned to Chicago and three that went to Bloomingdale, 20 miles east of us. I have heard of these cases and others later and know that they were contracted in South Haven. I could state case after case in distant places that very possibly came from our epidemics and also know South Haven citizens that have returned from distant trips where evidently they contracted typhoid. No doubt these facts in regard to this state of affairs in our community are also true all along the lakes. I feel that it is the duty of the medical profession to more thoroughly urge the boiling of all water of unknown or uncertain origin, especially advising travelers to investigate their drinking-water.

In over 400 cases occurring in our epidemic during the past six years, some interesting points are brought to light. There was only 1 per cent. in the aged, 55 years of age and over; 3 per cent. under 5 years of age; and 96 per cent. between 5 and 55 years of age.

At a recent social gathering thirty people ate infected food; fifteen adults contracted typhoid fever, and of the fifteen that escaped two were over 50 years of age, one was under 3, seven had had the fever within five years, evidently giving immunity, leaving five adults that escaped the infection without known reasons.

Our death-rate in the 400 cases has been 5.5 per cent. — below the average statistics, which run from 7 per cent. to as high as 12 per cent. In 150 cases I have had one death due to hemorrhage, one to embolism, one to perforation, two to toxemia, and two due primarily to chronic heart and kidney lesions. I have seen two cases and known of other cases where patients went into collapse, temperature subnormal, pulse weak, cold sweat, no hemorrhage, vomiting that became fecal in character, tympanitic, all signs of peritonitis except pain — patients all recovering. The diagnosis in these conditions was perforation, but as they all lacked the symptoms of first importance — pain — and all recovered without operation, I have always doubted the diagnosis and wondered to what the symptoms were due.

It has been said that if one had to choose whether he would have a good doctor and no nurse in typhoid fever or good nurses and no doctor it would be better for him to choose the latter alternative. While the details of treatment in ordinary cases must be largely in the hands of nurses, the doctor's care in looking out for the unfavorable features and giving treatment to guard against these should not be underestimated. I believe the first essential in the management of typhoid fever is absolute quiet and rest under the care of a competent nurse. Strict isolation and early adoption of routine of feeding, baths and typhoid management will prevent many of the distressing nervous and mental symptoms that appear later in the disease. I have repeatedly seen patients struggling to keep up with temperature of 104, and when placed in charge of nurse and under typhoid routine, the temperature subsiding 1 to 2 degrees within twenty-four hours.

Patients that carry the time of nourishment, medicine, etc., in their own minds do poorly. I have often seen mild cases, attempting home care, become the most severe and protracted of cases. The receiving of occasional visitors or letters, raising up in bed for food or drink, and many other trifling incidents will immediately produce a rise in temperature of patients and may prove serious. One of my patients in the hospital was visited by his wife ten minutes each day. He was running a mild course and felt perfectly well but temperature refused to leave, being prolonged to five or six weeks at 101. Temperature became normal in four days after she was requested not to visit her husband. It is here that the physician can do his duty by vigilance and a stiff backbone. I have seen serious and even fatal consequences follow a lapse in these matters of strict rest and quiet. Patients and nurses should be made to realize that it is a serious proposition and not one of entertainment, although the patient may be feeling well. These points cause me more anxiety in every case than the more serious conditions do, for in these latter it is easier to obtain strict adherence to directions.

In the first days of typhoid fever the steps to eliminate the toxin from the system are also of greatest importance. It has been recognized for a long time that patients who take large quantities of water do better than those who are unable to do so. Dr. Cushing of Cleveland is given credit for showing that typhoid patients can take enormous quantities of water and do better by so doing. Patients passing but 10 to 12 ounces of urine in twenty-four hours, after instituting this treatment for two or three days pass large quantities of urine, the nervous symptoms abate, temperature runs lower and a better general condition results. A rule laid down by Dr. Cushing, which I have tried to follow, is to give all the liquid the patient can take every half hour. They will take large amounts, when constantly pushed, and when nurses see patients brighten up, fever drop, and less baths necessary, they are willing to give extra attention to pushing the liquids.

I have followed in the early stages of the disease a vigorous giving of liquids with little food for three to five days, this consisting principally of fruit juice, with the whites of two eggs to a glass of lemon or orangeade. After a few days, depending on the severity of the disease, I have begun the routine feeding of the case. It has seemed to me in my own experience that where I pushed the diet too early the fever ran higher, symptoms of indigestion appeared, curds began to show in the stools and in the long run my patient took less food than where I refrained from regular food for possibly a week. In Johns Hopkins Hospital they give 4 ounces of milk with 2 of lime water every four hours, and the whites of two eggs with lemon juice every four hours. This gives 24 ounces of milk and twelve eggs in twenty-four hours, which although a perfect food, yields 800 calories, while the normal patient must have 2,000 calories and upward. Enough milk and eggs to supply the deficient calories would be impossible, for it would require 3 quarts of milk daily and no patient can take or digest that amount.

As you all know, the question of diet in typhoid is still in an unsettled state, a very few following the old starvation diet. Coleman and his followers going to the other extreme, feeding 4,000 calories, which excess is to make up for tissue loss due to high temperatures. This amount of food which he advises requires 1½ quarts of milk, 1 to 2 pints of cream, one-half pound milk-sugar, three to six eggs,

also bread and butter. I have always been sure my patients could not digest this amount of food. It seems to me, however, the amount fed typhoid patients is increasing, but my personal experience leads me to believe the feeding of solid and semi-solid diet is more in name than in deed, and its advocates go about it in fear, and end by giving a diet but slightly different from that ordinarily used. I do not believe in giving patients their choice and variety in diet to please their taste, unless it fits in with the routine of definite amount of nourishment. The giving of ice-cream, buttermilk, etc., may be all right but it is uncertain how much food patients get. The giving of a few spoonfuls of broth or gruel means nothing but starvation. I have found that patients can take two-thirds milk with Horlick's malted milk or Mellin's food and digest this better than plain milk, and 7 ounces of this every three hours will give 1,200 to 1,400 calories. If this does not agree with the patient and curds appear in the stools I give 2 heaping teaspoonfuls of Horlick's malted milk every two hours, or a caloric value of 800. While this is not much better than the milk and egg diet in caloric value, it can be used where milk cannot at all, the high carbohydrate element conserves the nitrogenous waste as stated by a large number of students of this question, and it has not in my experience raised the temperature and caused the tympanites that gruels have.

The subject of the application of hydrotherapy in typhoid cases is too well known and too broad to be but touched on in my paper. In our South Haven cases, as far as I know, there has been no attempt at tub baths, and in fact I have not heard of any physician using them in private practice. Our authors go into details describing tub baths, but I doubt if they are used by the profession out of hospitals, or very much in them. In questioning many nurses that I have met that have taken courses in cities of east and west none have had experience in the baths. We have used sponge baths almost exclusively, and have come to the study of the kind of sponge bath best adapted to the individual being treated. I prefer cold sponge if the reaction and drop of temperature occurs. Believe the reaction is the important factor in bettering patient's condition. Have seen patients with high temperature and delirium given cold bath, producing cold extremities and no reaction following and the temperature raised. Hot baths will many times reduce this temperature in nervous patients, obtaining good reaction, and decided quieting effect to the distressing mental symptoms.

I have come to use a method that I believe is worthy of investigation in this class of cases, where the sponge baths do not lower the temperature or affect the delirium and mental symptoms in any way. This is a method of giving cold colonic flushes for reduction of temperature. In a recent case, for example, with an excellent trained nurse in charge, temperature ran 105.5-106; sponge baths had no effect whatever in any way applied. Patient became unconscious, lost hearing, neck stiff, muscles twitching, pupils widely dilated, and desperately sick. Used small colon tube inserted with care just well through the sphincter muscle, 1 to 3 pints of water, temperature 40 to 50 F., passed in small quantities into colon and allowed to return through tube. Half hour later temperature 101 to 102, pulse fuller, better color, pallor having disappeared, twitching lessened. This was repeated every four to six hours if temperature reached 105 and was not reduced by sponge. Patient in four days was running a temperature 101 to 103, mental symp-

toms abating and in fair general condition. When I first began using this method in this class of cases I was afraid of handling the bowels so much, and it may be inadvisable, as one man's experience does not prove a rule. It seems to me theoretically, however, that the cold will quiet peristaltic action and not be dangerous, will constrict abdominal vessels and produce reaction and surface radiation, bring cold to inflamed areas which is physiologically correct, reduce temperatures, quiet patient and strengthens heart action. I have used it more or less in a considerable number of cases with good results. Have only used it in those severe cases in which we might expect hemorrhage and other serious complications and have seen no bad effects from its use.

In our cases in South Haven the vaccine inoculation has not been tried at all. Its value as a prophylactic is proved, but its worth in treatment is still to be demonstrated to the profession. A few words here as to the status of typhoid vaccine may be of interest. A culture of typhoid bacilli grown on agar is washed off with normal salt solution and the culture then killed by subjecting to 55 C. for one hour. This is then standardized so that 1 c.c. shall contain 1 billion bacilli. The immunizing dose is given in three injections of ten-day intervals, one-half c.c. to first injection, 1 c.c. to second and third.

It is to the records of our army that we must look for the practical value of the work. Over 60,000 men in our army have been vaccinated and among this entire number and covering a period of three years but twelve cases have occurred. In the maneuvers at San Antonio, Texas, last year, 12,000 men occupied the camp from March to July, but one case developed, and this a man that had not completed the inoculations. There were forty-nine cases and nineteen deaths in the city of San Antonio during the same four months. At Galveston 4,000 men were in camp during these same months, using same water, milk and food-supply as city. One hundred and ninety-two cases accurred in city and none in camp. The vaccination is now made compulsory in the United States Army.

The treatment of typhoid by inoculation is still in the experimental stage. No reports are yet available of large numbers treated. All that report the treatment agree that it has done no harm. It is probable that those that reported negative or discouraging results at first have been using the vaccines in too small dosage, 10 to 100 million to 1 c.c. being the early dosage. With increasing confidence the dosage has been increasing until at the present time it is 100 to 500 million and better results are reported.

The management of convalescence requires just as much and even greater care than the attack. I have seen so many relapses occur at this time that every case is on my nerves more than when seriously sick. My personal observation leads me to believe a liquid diet should be continued for seven days, then cereals added and after tenth day soft toast, eggs, custard in gradually increasing amounts, given; scraped steak or baked potato given at twelfth to fourteenth day. Patient should be kept in bed with regulation as to quiet and rest for two weeks after temperature is normal, then propped up on back rest and allowed to get up gradually during the third week. Visitors, excitement, reading to patient, reading of letters, etc., shaving and any of a countless number of things have caused me trouble during convalescence. I fear nervous influence and fatigue more than overfeeding. One

patient died during a relapse caused by receiving a Christmas gift, ten days after normal; a boy patient was given stamps that had been collected during his sickness; temperature taken before and after shows 1.5 degrees rise. One patient became excited over a bill sent in two weeks after fever was gone, temperature went to 103, and relapse was result. There is no disease where the patient becomes so weak and the effect on the nervous system becomes so marked as in typhoid fever.

HEXAMETHYLENAMIN

D. Vanderhoof, Richmond, Va. (*Journal A. M. A.*, February 3), says that since its first introduction into medicine hexamethylenamin has become widely extended in its therapeutic applications. As a result of the suggestive reports of its utility when given by the mouth and the evidence of its elimination through various secretions he began to employ this drug in the fall of 1910 in all cases of common colds that came under his care and in patients suffering from acute or chronic bronchitis. An investigation of the literature supported his views, showing that it could be of value in these conditions. In his treatment of colds with this drug no other remedies have been employed except an initial purgative and subsequent care to see that the bowels remain open. Large doses were found best, and as a routine he gives 10 grains dissolved in a glass of water four times daily for three to seven days, after which it is discontinued. The patient is instructed to drink water copiously during the time the drug is being taken and he has had but one patient that complained of any irritation of the bladder, which ceased promptly after omission of the drug. Two cases of chronic antrum infection which had resisted operative measures and prolonged local treatment induced him to recommend this treatment as a prophylactic against sinus infection from common colds. In the treatment of both acute and chronic bronchitis hexamethylenamin produces results, he says, that are incomparable with the usually employed remedies. It is decidedly effective in colds when the bronchitis stage has been reached, but its chief value is in preventing this. Some cases do not respond to it and in these it is presumed that structural changes have occurred that would preclude the hope of successfull treatment by any remedy.

The literature of the therapeutic uses of hexamethylenamin is briefly reviewed by I. H. Prouty, Bellows Falls, Vt. (*Journal A. M. A.*, April 20), who says that, in his cursory examination, he was unable to find any reference to the use of the drug in the treatment of orchitis. He therefore reports a case in which it was used with success and which has also the additional interest of being one of the comparatively rare instances of this complication of tonsillitis. The patient was a 20-year-old typesetter of good habits without specific taint, as far as could be discovered, or evidence of blood poisoning. The swelling of the testicle occurred during an attack of tonsillitis, in which treatment by acetylsalicylic acid was ineffective. In view of the bactericidal properties of hexamethylenamin when decomposed within the body, it occurred to him to give it a trial. It was administered in 15-grain doses every six hours. What appeared at first to be a severe inflammation very rapidly disappeared within a short time. Of course, a single case is not conclusive of anything, Prouty says, but it seems to him to justify a further trial in similar non-venereal cases.

NOTE CHANGE OF DATE OF ANNUAL MEETING
TO JULY 10 AND 11, 1912

CLEARER DIAGNOSIS AND SIMPLER TREATMENT*

LUCY N. EAMES, M.D.
Muskegon, Mich.

"If I had the time to find a place
And sit me down full face to face
With my better self that cannot show
In my daily life that rushes so,
It might be then I would see my soul
Was stumbling still toward the shining goal:
I might be nerved by the thought sublime
If I had time!" —*Richard Burton.*

At the risk of incurring your just criticism of "presumption," I have chosen to write on clearer diagnoses and simpler treatment. It is said by Charles Egbert Craddock, "There are few exercises so entertaining as to preach with no sense of participation in sin." Therefore the exercise this evening is not entertaining to me, because I do participate in the sins I shall enumerate, but I have the satisfaction of knowing I am in good company.

Medical science might almost be said to be an achievement of the last century. Before that time there was much teaching, a great deal of mysticism, more guess work, but little real knowledge. The perfection of the microscope opened the broad vista of bacteriology with its antitoxins and vaccines and of hematology with its serum-therapy. The discovery and perfection of anesthesia has rendered what seemed impossible once a commonplace now. The *x*-ray of late years has laid bare the inner recesses of the human body in a truly miraculous way. But as Mr. Dooley says, "What diff'rence does it make to ye how far ye move forward, if ivery thing else moves forward ahead of ye?"

The great discoveries are not all made by the professors in our colleges. The man who works is rewarded, if not by discoveries, at least then by a sense of work well done, which after all is the greatest reward the world can offer. It comes alike to the man who treats a coryza or a fractured hip, if the work done is equally well done.

Our great poet, James Russell Lowell, has put it thus:

"The longer on this earth we live
And weigh the various qualities of men,
The more we feel the high stern-featured beauty
Of plain devotedness to duty,
Steadfast and still, nor paid with mortal praise,
But finding amplest recompense
For life's ungarlanded expense
In work done squarely and unwasted days."

How many times has a dissatisfied patient come to your office from another doctor's, with a history of "grip" which has lingered for weeks. You examine the chest and find undoubted signs of tuberculosis. The other man has never examined the chest at all, but has kept the patient's bottle full of "White Pine Expectorant Mixture." It has occurred to me that certain physicians classify diseases into two great divisions, (1) certain known diseases and (2) "grip." Everything that defies classification falls under "grip."

Or, again, a patient complains for a long time of indigestion, pains and gas, and the doctor hands out box after box of "Papayans — Bell," or Caripeptic tablets. No physical examination or stomach analysis is ever made, and some bright day the

* Read before the Muskegon-Oceana County Medical Society, March 22, 1912.

patient screws up his will to the point of visiting another doctor, and the latter, after opening the abdomen, brings to light a double handful of gall-stones.

Or, again, a patient grows anemic, vomits, has some pain in the stomach, and the physician, without any examinations, lightly turns it off as "neuralgia of the stomach." Another physician finds a distinctly palpable mass and calls it "carcinoma of the stomach."

The way some doctors arrive at diagnoses would puzzle some of our college professors. For instance, a girl of 20 is treated for "kidney trouble" — you know, just kidney trouble — but the doctor never examined the urine. She had backache but no edema, no headache, heart and vessels normal, eyesight good. I found the urine normal in specific gravity, with no albumin or casts. Patient says the urine looks "bad" sometimes. Such a time I found phosphates. Now, how could a doctor know such a patient had kidney trouble and what is "kidney trouble" anyhow?

What manner of intuition leads a doctor to make a diagnosis of inflammation of the ovaries in a chaste young woman of 16, without any pelvic examination? On pelvic examination, tubes and ovaries are found normal.

Again, a patient has a sharp pain located exactly down the course of a nerve trunk, painful on pressure and on motion. Why should a physician diagnose "rheumatism" in place of neuritis?

Every profession is burdened with its below-grade workers. There are the machine-like teachers, the shyster lawyers, the botchy dressmakers, the hypocritical clergymen and the quack doctors. But, thank fortune, every profession has its Froebel, its Blackstone, its Worth, its Phillips Brooks and its Mayos.

We need never fear to impress a patient with our ignorance if we confess to him that we don't know what is the matter, but that we need study on the case. The doctor who loses ground is the one who really doesn't know, and won't say so, and doesn't care to find out. Most patients are elated at the prospect of having something interesting the matter with them. The snap diagnosis pleases him who makes it more than it does any one else.

If the internist, who sees a dozen cases where we see one, of both common and rare diseases, finds it needful to study, why not we also? And especially so, when so many patients really court that kind of work. It is sometimes a week before one can be fairly certain of a diagnosis, but during that week one has not retrograded in professional ability. As one has said, "Growing is like falling — it is all right so long as you keep on; the trouble comes when you stop."

The diagnosis of a case depends on (1) history — family and personal; (2) physical findings; (3) laboratory findings; (4) reason.

Sometimes in the strain and stress of a busy day we neglect to secure sufficient history such as any previous indication of tuberculosis either as a prolonged cold or cough, night sweats, afternoon temperature, loss of weight, enlarged glands; or of syphilis, as primary sore, secondary symptoms, frequent miscarriages, lightning pains, and so on; or of scarlet fever with attendant edema, otitis media or heart complications; or of gonorrhea; or of family history of cancer, epilepsy, degeneracy, alcoholism; or the personal history of alcoholism or other excesses; of induced abortions; of headaches; backaches; jaundice; or injuries.

Many patients who come in complaining of stomach trouble have poor teeth and never masticate well. Many have been brought up from babyhood on white bread and poor coffee. Many have always

"pieced" between meals. Many girls who clerk, lunch at noon on an ice-cream soda. Others spend every spare cent on Ten-Cent Store candy. Oftentimes the history of stomach trouble in a young girl requires a pelvic examination, or at least an examination of the breasts, to exclude pregnancy.

I believe we fall down more on physical examination than in any other part of diagnosis. In every case we treat we ought to know the condition of heart and kidneys. By a routine examination of every patient we discover many things incidentally. To listen with ear to chest through the clothing may look learned, but it is a poor system, especially in the case of many of our foreign-bred patients who are dressed on the plan of an onion, requiring layer after layer to be peeled off. The chest should be studied in a good light, both in inspiration and expiration. The two sides should be compared by inspection and palpation. The abdomen furnishes abundant scope for the examining hand. The examination of McBurney's point would clear up a good many cases of indigestion. The pelvic examination is often of the greatest importance. Reflexes should be tested if there is any indication. The nerve roots should be examined to determine if there is tenderness.

When all has been done that the general practitioner can do in the way of physical diagnosis, there is still left the specialist to consult particularly on matters of the eyes, ears, nose and throat. I believe we could treat many cases more intelligently if we sought help of the eye specialist more than we do. When all this has been done, there is still left the examination under anesthesia and the exploratory operation, when indicated, to help us determine what ails the patient.

But before the last-named alternatives are resorted to, when the physical findings and clinical history leave us apparently battling against an unknown foe, there is the laboratory which throws a far-reaching searchlight on many a dark problem.

Everybody examines the urine, even the wonder doctor who moved out to Grand Rapids. Many very wonderful things have been guessed at from the urine, but many other things that are important and sensible can be determined by a careful chemical and microscopic examination. We can often determine whether pus comes from the bladder or kidney, a matter of some consequence. We can determine the kinds of nephritis usually. We detect intestinal indigestion by the presence of indican and oxalates. We have a fairly good test for typhoid or measles in the diazo, and we can foretell the approach of the crisis in pneumonia. We can keep reliable tab on the patient with nephritis or diabetes — if we keep our test-tubes clean.

When the sputum examination is reported positive, the result for diagnosis is very satisfactory, but I wish patients could learn that when it is negative once, that does not clear their skirts of tuberculosis. It should be again and again examined to be sure. Often we get the test very early, before we have many symptoms. Happy is the doctor who makes his diagnosis early in tuberculosis!

To examine the pus in the eyes of the new-born is of prime importance. Likewise to examine the pus of the cervix or the urethra early is of consequence. The old chronic cases are less satisfactory.

Laboratory tests of blood are to me of the greatest interest. When tempted to feed Blaud's mass to a white-haired, white-skinned Swede, I have found her to possess 90 per cent. hemoglobin and 5,000,000 red cells. How foolish it would have been to have induced a constipation

and perhaps some indigestion by giving iron to a perfectly normal patient! Another patient of mine, suffering from fibroid of the uterus, is the picture of health, red-cheeked and fat, but, alas, her hemoglobin was 40 per cent. and her red cells 2,500,000. Anyone would have called the latter healthy and the former anemic. So one cannot always tell the blood conditions by looking at the patient's lips. The hemoglobin and the red cells sometimes correspond, but often do not. How one dares to make a diagnosis of pernicious anemia or leukemia without a blood examination, I cannot see. If we had no electric lights we could use candles; but we have electric lights. Then again in the matter of infections, the white count is of the greatest value in diagnosis, treatment and even prognosis. A differential count with both a high neutrophil and a high eosinophil count, in leukocytosis, means gonorrhea. A high eosinophil percentage often indicates intestinal parasites or some form of skin eruption.

Gastric analyses are most satisfactory for diagnosis because the treatment is so evident, after the test is made. The stomach-tube turns a stomach inside out as a boy turns out his pockets, and shows us what is going on.

The Wassermann test for syphilis, though expensive, is worth the money to clear up the diagnosis in obscure cases. It costs $11 now and the delay of a week to get the report.

The tuberculin test either as the Moro skin test, the Calmette eye test, or the von Pirquet vaccination test, is of great significance, though often in isolated cases its value is disputed.

The study of blood-pressure, especially in those patients past 50 who have worked hard, or have lame hearts or kidneys, is to be recommended. The machine is so simple that any one can work it.

Reason, after all, is the most cogent aid to diagnosis. To weigh the worth of each sign and symptom and bit of evidence and to formulate a clear idea of the morbid process going on, even though we do not name it, take gray matter, and also we sometimes think of ourselves as "Poor Percy! Brains he has nix!" When we understand the pathologic condition, then we can fit the remedy to the case with precision. Then we shall cease to hear of a "touch of typhoid" lasting three days, or "just a little kidney trouble" when we mean cystitis. Arnold Bennett in his "How to Live on Twenty-Four Hours a Day" says: "I am entirely convinced that what is more than anything else lacking in the life of the average well-intentioned man of to-day is the reflective mood."

It is an easy thing to grow lop-sided in our mental processes, and herein lies a danger in making diagnoses. One man goes strong on history and forgets the laboratory. That is the old practitioner who brought the patient into the world and therefore knows all about him without ever having to examine him since he tied the cord and laid him aside in a warm shawl.

The man who bases his all on physical diagnosis is better than the other, but not complete.

The laboratory enthusiast is apt to want everything reduced to a slide or a test-tube and then he comes from Missouri and "wants to be shown." Laboratory reports are usually positive or negative, but here again results must be fitted into clinical findings. I do not believe in laboratory findings alone and I haven't much interest in the physician who, without any work on his part, expects a dollar's worth of laboratory work to clear up his whole diagnostic horizon and make him shine as a Solomon unto his patient. Sometimes the laboratory can do just that thing, but it cannot in all cases.

Above all things cultivate a clear, concise method of thought which shall make impossible the "muddled" diagnosis. Weigh each bit of evidence, fit each piece together, and the problem will be solved —x will equal something tangible. It took Ralph Waldo Emerson to say: "I look on that man as happy who, when there is a question of success, looks into his work for a reply, not into the market, not into opinion, not into patronage." He also says: "A great part of courage is the courage of having done the thing before. And, in all human action, those faculties will be strong which are used."

"I wish I could talk to myself as I left 'im a year ago:
I could tell him a lot that would save 'im a lot
Of the things 'e ought to know."

Rudyard Kipling's expression might well be used for the doctor and the Pharmacopeia since the work of the Council on Pharmacy and Chemistry.

After the diagnosis is made, the treatment is usually relatively easy if we will allow it to be so. But we must keep constantly revising our armamentarium to be in the latest spring or fall style. First they taught us the harm and the fraud of soothing syrups, Peruna, and Lydia E. Pinkham's dope. We nodded in approbation. Next they took up some of the things we had given patients — Pepto-Mangan, Unguentine, Glycothymaline — and we sat up with open eyes and wondered why we were so gullible as to believe their pseudoscientific advertising letters. Now we have settled down to expect to hear most anything about the drugs we use, and I think we are just beginning to get real sense about prescribing. We are coming to see with Uncle Eben that "it's jes' about as hard to pick good advice as it is to do yo' own thinkin' in de first place."

There are a great many remedies on our shelves and in our cases which we know haven't much of any value, but back there somebody used it for something, and we continue giving it "as a routine." The sooner we get out of the rut, even if it turns the whole rig over, the better for our minds. I hardly dare mention what I think some of these remedies are for fear I shall touch somebody's favorite and thereby I shall sow dragon's teeth. Suffice it to say that we could practice the art of healing for a long time with success and use only a dozen or so of our present remedies, such as digitalis, opium and its derivatives, ergot, strychnia, belladonna, mercury, arsenic, iron, quinin, anesthetics, etc. It is not necessary to confine our practice to these, however, for there are many newer remedies, like salvarsan, antitoxin and vaccines, that are of the greatest value. But we are still cumbered by hundreds of drugs which our high school friends would call "junk." How many dozens have we seen outgrown and outworn ourselves?

It is, moreover, practical to use single and simple remedies. Here is a place where our Homeopathic friends "have us beat." To them a set of symptoms indicates a certain drug; to us it indicates a Parke-Davis or an Upjohn pill containing from one to a dozen drugs, many of which we would never think of prescribing alone, because we know they are inert. For instance, take the Brown-Séquard pill for neuralgia (and the bottle is in the hospital pharmacy).

Ext. hyoscyamus	$\frac{2}{3}$ gr.
Ext. ignatia	$\frac{1}{2}$ gr.
Ext. opium	$\frac{1}{2}$ gr.
Ext. belladonna leaves ...	$\frac{1}{6}$ gr.
Ext. conium fruit	$\frac{2}{3}$ gr.
Ext. stramonium leaves ..	$\frac{1}{5}$ gr.
Ext. aconite leaves	$\frac{1}{3}$ gr.
Ext. Indian cannabis	$\frac{1}{4}$ gr.

Eight good strong drugs in a good strong dosage ought to do something to a patient!

Again, take the "Liver — Improved" tablet:

Purified aloes	1 gr.
Powd. jalap	1 gr.
Powd. gamboge	1/8 gr.
Leptandrin	1/8 gr.
Mercurous chlorid, mild	1/8 gr.
Powd. capsicum	3/16 gr.
Fl. extr. veratrum	1/8 gr.
Croton oil	1/50 gr.

Certainly something ought to give way before such a combination as this!

The antirheumatic tablet consists of:

Colchicin	1/100 gr.
Potassium iodid	2 gr.
Ext. phytolacca root	1 gr.
Digitalin, pure	1/100 gr.
Guaiacum	3 gr.

Bronchial:

Ammonium chlorid	1/3 gr.
Ext. glycyrrhiza	1 gr.
Oleoresin cubeb	1/6 gr.
Powd. hyoscyamus	1/4 gr.
Powd. senega	1/5 gr.
Powd. ipecac	1/50 gr.
Balsam tolu	1/5 gr.

In many cases one remedy would do the work with three distinct advantages: (1) It is cheaper and simpler and we get fresher drugs; (2) the doctor would know from experience the effect of one drug at a time on the human frame, while at present his results may come from one or a dozen and one drugs; (3) the patient's stomach would not be upset by so much drugging. I am reminded of that old newspaper advertisement with the illustration of a man open like the almanac figure, but showing a corner drug store in his epigastric territory, bearing the label: "Don't make a drug store of your stomach."

As a matter of fact, I think we do not know enough from experience about the use of simple drugs to trust ourselves to their use, except when a patient is very ill, and then we buy the freshest and purest tinctures we can get and use only what we need. The very sick patient is usually not receiving the large shotgun prescription tablet. Why is not a half-sick patient entitled to a similar consideration?

One cannot close an argument for simpler treatment without making some plea for non-medicinal treatment. Neurasthenia as well as anemia and tuberculosis should be given more fresh air and deep breathing. The big out-doors is free to everyone. Most physicians will not discuss diet with their ordinary patients. Except a man have diabetes or nephritis, he shall not learn of his doctor what to eat. Many obstetrical patients are starving themselves to produce a small baby. They need to be told that the fetus derives the necessary food from the mother's blood and the mother only starves herself.

We must not take away that panacea for all ills — Antiphlogistine — unless we teach the patient the real value of hot fomentations and flax-seed poultices.

We must not forget the tonic action of electricity and massage, cold baths and salt rubs.

We must remember "the world gives its admiration not to those who do what nobody attempts, but to those who do best what multitudes do well."

I will close with a quotation from the greatest English novelist, whose birth occurred 100 years ago this year. The thought will nerve us, if we think at all, to work. "If you wish to be happy, think of the many friends, yet unknown, who in the procession of life are now on their way to meet you."

And each patient on his way to us from out of the future has the right to demand not only our individual best work, but as well the boiled-down essence of the best opinion of the medical fraternity.

CLEARING OUR SKIRTS OF THE SUSPICION OF MEDICAL GRAFT

C. M. WILLIAMS, M.D.
Alpena, Mich.

There is a suspicion in the mind of the laity, far more than the facts warrant, that the sick are being exploited for the financial betterment of the doctor. This is particularly the case in large cities and hospitals. Rural communities also may have this mistaken idea, and in their case the suspicion does far more harm to the medical profession, because of the speed with which it travels.

The medical profession must remove this suspicion that its members are lining their pockets by secret rebates, rake-offs, commissions, split fees, discounts and the like, if they wish to retain the honor of being the noblest of professions. Each physician should see that these suspicions of medical graft have no basis in fact, and should lose no opportunity to correct any such impression that may be abroad.

Medical men are sometimes accused of accepting commissions from druggists to whom they send their prescriptions. Every physician who uses prescription blanks supplied by a druggist lays himself open to suspicion of receiving a rebate. It would be proper for the physician to furnish his own blanks, and then he would be in a better position to deny any such practice.

Likewise the suspicion that surgical cases are taken where there is the highest commission, and not where there is the highest degree of surgical skill may be corrected by the physician himself charging what his services are worth, or if the surgeon collects the fee for both, to have such an agreement with the patient as will not permit of a misunderstanding. A good rule to follow, which many physicians are adopting, is to accept no such compensation themselves, and to send their patients only to such as do not countenance this form of bribery.

These doubts as to the physician's motives are constantly increased, to the detriment of the profession, by offers from drug and liquor cure institutes to give the doctors secret rebates on all cases referred by them. Likewise some so-called maternity homes offer a percentage on the unfortunate girls that the doctor will steer into their open jaws. Some sanatoriums of the cheaper sort are not above these undignified practices, which classes them with the unlawful trusts, that by secret rebates, gentlemen's agreements, etc., have crushed down competition. Let us see to it that our patients are sent only to such institutions as give a dollar's worth of service for every dollar paid.

Politicians, public grafters, and the like have not as yet learned their proper lesson at the hands of the medical men. A few black eyes on the face of these solicitors of bribes and rake-offs would help amazingly to raise the public's appreciation of our profession.

Of all the despicable proffers ever made, that of the undertaker who offers a commission to the family physician is the most vile. Such a low-lived parasite on

the grief of the people should be publicly denounced, and his unseemly practices held up to the scorn of the world.

Every profession has its peculiar opportunities for dishonorable dealing, and I believe the medical profession to be the purest in its motives of any. Let us see to it that the public properly appreciates our position, and that we receive due credit for honorable dealing.

RAT LEPROSY

H. Zinsser and E. G. Carey, Stanford University, Cal. (*Journal A. M. A.*, March 9), report experiments on the cultivation of the bacillus of rat leprosy, possibly identical with that of man. They first employed all the usual laboratory mediums in various methods, but all without results. In the next series of experiments they followed the suggestion that the growth of the bacilli in the subcutaneous areas of the rat, where adipose tissue is normally located, might indicate a need for fats. Cultures were made on Dorsett's egg-medium to which fats in the form of butter-fat and rat-fat had been added with and without glycerin. No results were obtained. Simple symbiosis on various mediums, both aerobic and anaerobic, with the spirillum of cholera and different bacilli, gave negative results in observations covering several months. Clegg's method of cultivating the bacillus of human leprosy by implanting it on cultures of an ameba with the spirillum of cholera and the colon and typhoid bacillus were made on ameba agar with rat leprosy bacilli, but also without results. Attempt to cultivate rat leprosy by one of the methods advised by Duval for the human leprous bacilli also proved a failure. The experiments in which success was finally obtained were by means of the technic developed by Harrison, Burrows, Carrel and others for the growing of tissue-cells in coagulated plasma, using as a source of tissue small pieces of spleen from rats and over a week old. They believe that they were more successful when the animals were killed instantly by cutting the cervical cord than by ether or chloroform. The technic is described in detail. In two preparations, examined after two weeks' incubation, an unmistakable and very extensive increase of rat leprosy bacilli had taken place. The increase had occurred intracellularly, the cells being the size and arrangement other than polynuclear leukocytes. In examining the lymph-nodes of infected rats they had also observed the bacilli to be almost exclusively intracellular, which corresponds to the observations in human leprosy and indicates therefore that, as in human leprosy, the growth of the bacilli in rat leprosy takes place in the tissue-cells rather than in the intracellular spaces. The lack of cells in artificial mediums may therefore account for the numerous failures. The authors believe that we possess in the plasma tissue preparations a means of great value in studying directly certain phases of the reactions between the tissue cells and bacteria not amenable to direct experimental approach in the past.

NOTE CHANGE OF DATE OF ANNUAL MEETING
TO JULY 10 AND 11, 1912

A PEEP INTO MEDICAL ANTIQUITY*

N. H. KASSABIAN, M.D.
Coopersville, Mich.

The history of medicine, its origin, in the dim of antiquity, and its development has an intimate connection with the progress of philosophy, religion and science — in other words, civilization at large. Medicine being an art even during the embryonic stage of its existence grew parallel with its sister fine arts. Where did medicine originate? Where was its cradle? Shall we unhesitatingly and with an implicit confidence believe, as some of the ancient writers did, that Athens, the classic city of the Hellenic race, was the mother of arts, as Milton is pleased to call her? Now for a moment I wish to become an insurgent. It seems to be very much *à la mode* nowadays, and I wish to claim that Milton and the rest of his followers are very much mistaken. Milton is unquestionably an authority on Paradise Lost. He makes, however, a gross mistake when, in his great admiration of Grecian culture, he says: "O Athens, Mother of Arts." The prevailing opinion was those days that Athens was the originator and propagator of arts. Kurt Sprengel, in his "Histoire de la Médecine," says: "Greece, this favored spot of Nature, was of all others the fittest for the birthplace of medicine and other sciences and arts" (1815). But the fact is that the pick and shovel of Layard in Nineveh and recent excavations have made some marvelous revelations in regard to the origin of art in general. We have been compelled by an overwhelming majority of facts and an abundance of material to admit that in order to find the cradle of arts we need not linger round the Athenian acropolis. We ought to make a pilgrimage to the banks of the Nile and the Euphrates, because on the shores of these most ancient rivers art originated, was nursed to maturity and from there transmitted, if I may express myself in this manner, to Asia Minor and Greece. We must admit that the Greek genius gave to it an impetus, improving the art which they had learned from the Egyptians, Phœnicians and Assyrians and in due course of time imparting it to the Romans and to the world.

Men during the early period of existence, while believing a polytheistic religion, in their fancy attributed all forms of sickness, mental or bodily suffering, to the displeasure of some one of their deities and, of course, to such deities turn with petitions, prayers and sacrifices for relief. A large majority of the peopde of the Orient still believe that for fever they have to appeal to a certain saint, for safe travel to some other, for sterility to still another one with sacrificial offerings, thus proving that even after the introduction of Christianity old pagan ideas had still their sway in the minds of the people.

Among the nations of remote antiquity that attained a higher and enviable level in the cultivation of arts, Egypt stood as the one *par excellence*. Marpero, one of the most renowned Egyptologists of this century, estimates the beginning of the Egyptian civilization somewhere between six and seven thousand years before Christ.

* Read before the Kent County Medical Society, April, 1911.

In Egypt, as well as among the nations of southwestern Asia, the universal belief was that both diseases and their remedies were derived from and controlled by their deities, necessarily caused the office of priest and physician to be united in the same person, and the temples for worship became the chief places of resort for the sick. The most noted of Egyptian temples were at Thebes, Memphis and Heliopolis.

It is perhaps interesting to mention the names of four physicians who are represented as practicing medicine between 5000 to 4000 B. C. — Teta, Tsethosta, Nebsu and Chai. The first two were also kings, and the last was an oculist.

"If I wished to characterize in one word," says Schlegel, "the peculiar bearing and ruling element of the Egyptian mind — however unsatisfactory in other respects such general designation may be — I should say that the intellectual eminence of that people was in its scientific profundity — in an understanding that penetrated, or sought to penetrate, by magic, into all the depths and mysteries of Nature; even into their most hidden abyss. So thoroughly scientific was the whole learning and character of the Egyptian mind that even the architecture of this people had an astronomical import, even far more than that of the other nations of early antiquity. I have already had occasion to speak of the deep and mysterious significance of their treatment of the dead. In all the natural sciences, in mathematics, astronomy, and even in medicine, they were the masters of the Greeks; and even the profoundest thinkers among the latter, the Pythagoreans, and afterwards the great Plato himself, derived from them the first elements of their doctrines, or caught at least the first outline of the mighty speculations. Here, too, in the birth place of hieroglyphics, was the chief seat of the mysteries, and Egypt has at all times been the native country of many true, as well as many false, secrets."

Every month the Egyptians, according to Maspero, for three successive days, purged the system by means of emetics or clysters. The study of medicine with them was divided between specialists, each physician attending to one kind of illness only. Every place possessed several doctors, some for diseases of the eye, others for the head, or the teeth, or the stomach, or for internal diseases, the bone setters attached to the worship of Sakhit, who treated fractures by the intercession of the goddess, and the exorcist who professed to cure by the sole virtue of amulets and magic phrases. The professional doctor treated all kinds of maladies, but, as with us, there were specialists for certain affections who were consulted in preference to general practitioners.

The climatic character of the country necessitated the presence of a considerable number of specialists. Where ophthalmia and affections of the intestines predominated we necessarily find many oculists, as well as doctors for internal maladies. The best instructed, however, knew but little of anatomy. As with the Christian physicians of the Middle Ages, religious scruples prevented the Egyptians from cutting or dissecting in the cause of pure science the dead body which was identified with that of Osiris. The processes of embalming, which would have instructed them in anatomy, were not intrusted to doctors. The knowledge of what went on within the body was therefore but vague. Life seemed to be a little air, a breath which was conveyed by veins from member to member. Under the influence of the good breaths, the vessels were inflated and worked regularly, under that of the evil they became inflamed, were obstructed, were hardened, or gave away and the phy-

sician had to remove the obstruction, allay the inflammation, and reestablish their vigor and elasticity. At the moment of death the vital spirits withdrew with the soul, the blood deprived of air "became coagulated, the veins and arteries emptied themselves and the creature perished for want of breath."

The majority of diseases from which the ancient Egyptians suffered are those which still attack their successors: ophthalmia, affections of the stomach, abdomen and bladder, intestinal parasites, varicose veins, ulcers in the leg, the Nile pimples and finally the divine mortal malady, the *divinus morbus* of the Latins, epilepsy. Anemia, from which at least one-fourth of the present population suffers, was not less prevalent than at present, if we may judge from the number of remedies which were used against hematuria, the principal cause of it.

Egyptian physicians were able, however, to determine fairly well specific characteristics of ordinary affections and sometimes describe them in a precise and graphic fashion. "The abdomen is heavy, the pit of the stomach painful, the heart burns and palpitates violently. The clothing oppresses the sick man and he can hardly support it, nocturnal thirsts. His heart is sick as that of a man who has eaten of the sycamore gum." This is the beginning of gastric fevers so common in Egypt. A modern physician could not better diagnose such a case; the phraseology would be less flowery but the analysis of the symptoms would not differ from that given us by the ancient practitioner of remote antiquity.

The medicaments recommended comprise nearly everything which can in some way or other be swallowed, whether in solid, mucilaginous or liquid form. Vegetable remedies are reckoned by the score, from the most modest herb to the largest tree, such as sycamore, palm, acacia and cedar, of which the sawdust and shavings were supposed to possess both antiseptic and emollient properties. Among the mineral substances are to be noted sea salt, alum, niter, sulphate of copper, and a score of different kinds of stones; among the latter the memphite stone was distinguished for its virtue — if applied to the parts of the body which were lacerated or unhealthy it acted as an anesthetic and facilitated the success of surgical operations.

The medicaments compounded of these incongruous substances were often very complicated. It was thought that the healing power was increased by multiplying the curative elements; each ingredient acted on a specific region of the body. The physician made use of all the means which we employ to-day to introduce remedies into the human system, whether pills or potions, poultices or ointments, draughts or clysters. Not only did he give the prescriptions, but he made them up, thus combining the art of physician with that of a dispenser. He prescribed the ingredients, pounded them either separately or together, he macerated them in the proper way, boiled them, reduced them by heating, and filtered through linen. Fat served him as the ordinary vehicle for ointments, and pure water for potions; but he did not despise other liquids, such as wine, beer, vinegar, milk, olive oil, even the urine of men and animals; the whole sweetened with honey was taken hot night and morning. The use of more than one of these remedies became world wide. The Greeks borrowed them from the Egyptians; we have piously accepted them from the Greeks; and our contemporaries still swallow with resignation many of the abominable mixtures invented on the banks of the Nile and Euphrates in the dim of remote antiquity long before the building of the pyramids.

CHALDEAN MEDICINE

Chaldea abounded with soothsayers and necromancers no less than with astrologers; she possessed no real school of medicine, such as we find in Egypt, in which were taught rational methods of diagnosing maladies and of curing them by the use of remedies. The Chaldeans are content to confide the care of their bodies to sorcerers and exorcists who were experts in the art of casting out demons and spirits whose presence in a living being brought about those disorders to which humanity is prone. The facial expression of the patient during the crisis, the words which escaped from him in delirium, were, for these clever individuals, so many signs revealing the nature and sometimes the name of the enemy to be combated, the fear-god, the plague-god, the head-ache-god.

Consultations and medical treatment were, therefore, religious offices, in which were involved purifications, offerings and a whole ritual of mysterious words and gestures. The magician lighted a fire of herbs and sweet-smelling plants in front of his patient, and the clear flame rising from this put the specters to flight and dispelled the malign influence.

The medical authorities in Chaldea recommended such remedies which were for the most part both grotesque and disgusting in their composition. They comprised bitter and stinking wood shavings, raw meat, Soakis flesh, wine and oil, the whole reduced to a pulp or made into a sort of pill and swallowed. They attributed to these compounds wonderful effects, these strange compositions were recommended before all others, and their very strangeness reassured the patient as to their efficacy.

The Chaldeans were not, however, ignorant of the natural virtues of herbs and at times made use of them; but they were not held in very high esteem, and the physicians preferred the prescriptions which pandered to the popular craving for the supernatural.

Amulets further confirmed the effect produced by the recipes, and prevented the enemy, once cast out, from reentering the body; these amulets were made of knots of cord, pierced shells, bronze or terra cotta statuettes and placques fastened to the arms or worn around the neck. On each of the latter kind were roughly drawn the most terrible images that they could conceive, shortened incantation was scrawled on its surface, or it was covered with extraordinary characters, which, when the spirits perceived, they at once took flight and the possessor of the talisman escaped the threatened illness.

The following is a specimen of an Assyrian physician's writing to the king:

"To the King, my Lord, thy servant, Arad-Nana, Greeting most heartily to my Lord, the King. May Adar and Gala grant health of mind and body to my Lord, the King. A Hearty greeting to the Son of the King.

"With regard to the patient who has a bleeding from his nose, the Rab-Magi reports: 'Yesterday, towards evening, there was much hemorrhage.' These dressings are not scientifically applied. They are placed on the alae of the nose, oppress the breathing and come off when there is hemorrhage. Let them be placed within the nostrils and then the air will be kept away and the hemorrhage restrained. If it is agreeable to my Lord, the King, I will go to-morrow and give instructions, meantime let me hear how he does."

Another specimen of Assyrian correspondence:

"To the King my Lord, thy servant Arad Nana, may thereby place forever and ever to the King my Lord. May the God Nina and the Goddess Gula give soundness of heart and soundness of flesh to the King my Lord, Peace forever.

"To reduce the general inflammation of his forehead, I have tied a bandage upon it. His face is swollen; yesterday as formerly, I opened the wound, which had been received in the midst of it. As for the bandage which was over the swelling, matter was upon the bandage, the size of the tip of the little finger."

They have also another institution, says Herodotus, the good tendency of which claims applause. Such as are diseased among them they carry into some public square. They have no professors of medicine, but the passengers in general interrogate the sick person concerning his malady, that if any person has either been afflicted with a similar disease himself, or seen its operation on another, he may communicate the process by which his own recovery was effected, or by which in any other instance he knew the disease to be removed. No one may pass by the affected person in silence or without inquiry into the nature of his complaint.

ASSYRIAN PRESCRIPTION FOR THE DISEASE OF THE HEAD BY CAMPBELL THOMSON

"When a man's brain contains fire and myalgia afflicts the temples and smites the eyes so that his eyes are affected with dimness, cloudiness, a disturbed appearance with the veins bloodshot, shedding tears, pound one-third of a Ka of Sihla with a pestle until thou hast strained it; add one-third of a ka of Sak-ka-a-Kal thereto and knead it in an infusion of cassia, press, bind it on (as a poultice) and do not take it off for three days."

FROM THE MOST ANCIENT CODE RELATIVE TO THE PRACTICE OF MEDICINE

From the code of Khammurabi:

"If a doctor has treated a man for severe wound with a lancet of bronze and has cured the man or has opened a tumor with a bronzed lancet and has cured the man's eye he shall receive ten shekels of silver.

"If a physician has treated a free borne man for a severe wound with a lancet of bronze and has caused the man to die, or has opened a tumor of the man with a lancet of bronze and has destroyed his eye, his hands shall be cut off.

"If a doctor has treated the slave of a freed man for a severe wound with a bronzed lancet and has caused him to die he shall give back slave for slave. If he has opened his tumor with a bronzed lancet and has ruined his eye he shall pay the half of his price in money.

"If a doctor has cured the broken limb of a man or has healed his sick body the patient shall pay the doctor five shekels of silver.

"If a doctor of oxen and asses has treated an ox or an ass for a grave wound and has cured it the owner of the ox or ass shall give to the doctor as his pay one-sixth of a shekel of silver. If he has treated an ox or an ass for a severe wound and has caused its death he shall pay one-fourth of its price to the owner of the ox or ass."

There is no nation in southwestern Asia to which modern civilization and culture is as much indebted as the Israelitic race, and still so little appreciated, and more than that often submitted to disdain, ridicule and persecution. This being the case, I will take a few moments to show the impress of Hebraic civilization.

Our present mode of thought and feeling, our lives and actions are far more profoundly influenced by the world of thought and feeling which Israel created, than by that of Greece or Rome. Our whole civilization to-day is saturated and permeated with tendencies and impulses which have their origin in Judea. The reason for this is that in Israel one side of human nature had developed to very great perfection, a side which is of far greater consequence to mankind in general than art and science, law or philosophy. While in Hellas, philosophy first, and then indirectly science developed out of mythology, in Israel the age of mythology was succeeded by that of religion; and we may say that the religion of Israel is still the active religion of mankind, as maintained by Bernard Stade, in a far higher degree than the philosophy of the Greeks is still its active philosophy. What Israel did in the sphere of religion is without a doubt far more epoch-making, unique and effective than what the Romans did in the sphere of politics or the Greeks in that of art and science.

It was the strong belief of the Jews that disease and especially epidemics were sent as punishments by the deities on account of their sins. Consequently, for relief, they resorted to repentance, prayer and the

interposition of the priests officiating in their places of worship, rather than to the administration of medicines. They thereby combined the function of priest and physician in the same persons. Moses, their great law giver, gave them the earliest elementary code of public hygiene of which we have any record. It contained specific directions in regard to the kind and preparation of food; the slaughtering of animals; the burial of the dead; the regulation of marriage and sexual relations; the diagnosis and isolation of cases of leprosy and the strict prohibition of artificial abortion.

It is clear that Homer attributes such a superiority to several eastern nations, more especially to the Phœnicians, not only in wealth, but in knowledge and skill, that, compared with their progress, the arts of Greece seem to be in their infancy. The description of a Phœnician vessel which comes to a Greek island freighted with trinkets, and of the manner in which a lady of the highest rank, and her servants, handle and gaze on one of the foreign ornaments, presents the image of such commerce as Europeans carry on with the islanders of the South Sea now.

The chances of war give occasion, as might be expected, for frequent allusions to the healing art. The Greek Army contains two chiefs who have inherited consummate skill in this art from their father, Æsculapius; and Achilles has been so well instructed in it by Chiron that Patroclus, to whom he has imparted his knowledge, is able to supply their place. The operation of extracting a weapon from the wound with a knife seems not to have been considered as one which demanded peculiar skill; the science of the physician was chiefly displayed in the application of medicinal herbs, by which he stanched the blood and eased the pain. When Ulysses has been gored by a wild boar his friends first bind up the hurt and then use a charm for stopping the flow of blood. The healing art, such as it was, was frequently and successfully practiced by the women.

The fifth century B. C. was a period when Greek civilization and power had reached their zenith. Greece had victoriously closed her wars with Persia, and in statesmanship, in works of art, in history, in schools of philosophy and in physical culture she had excelled all her contemporaries. The art of writing had been introduced from Phœnicia and the use of papyrus from Egypt, thereby greatly facilitating the recording of facts and the history of events of every kind. It was at this auspicious period in human progress that Hippocrates, justly surnamed the "Father of Medical Literature" as well as the "Father of Medicine," was born on the Island of Cos, about 460 B. C. His father, Heraclides, belonged to the order of Æsclepiadæ. Hippocrates received his early education under his parents in the Temple. He went to Athens where he was educated in the best schools of Greece, and thoroughly acquainted with whatever records relating to medical topics had accumulated in the Æsclepion at Cos, which was one of the most celebrated then in existence. He commenced his professional career contemporaneous with the statesmen Themistocles, Miltiades, Pericles and Nicias; the philosophers Anaxagoras, Pythagoras, Socrates and Plato; the dramatists Æschylus, Sophocles, and Eurypides; the orators Lysias and Demosthenes; and the historians Thucydides, Herodotus and Xenophon.

Hippocrates was the first to separate himself from the order of Æsclepiadæ in which he had been born, and engaged in the work of a general practitioner of medicine. As such he visited and practiced in the provinces of Thessaly, Macedonia and

Scythia, and everywhere he studied with great care the actual phenomena of diseases and their etiology. He died in Larissa, Thessaly, in about 377 B. C. His reputation is said to have greatly increased by his successful treatment and cure of Perdicus, king of Macedonia, who was sorely afflicted with love sickness.

One of the characteristic precepts of Hippocrates is worthy of the attention of every practitioner of medicine, and I quote it as follows:

"Life is short, opportunity fleeting, judgment difficult, treatment easy, thought hard; but treatment after thought is proper and profitable."

Equally worty of remembrance are the following maxims: "The physician is a servant, not a teacher, of Nature. Follow Nature." The physician should benefit, or at least not injure; yet he declares that "timidity indicates incapacity, rashness want of skill." We might say that the three distinguishing mental qualities of Hippocrates were patient observation, logical reasoning and faithful recording of both facts and deductions.

A much more important practitioner and contributor to medical literature was Soronnes of Ephesus, who practiced in Rome during the time of Trajan and Hadrian, from 98 A. D. to 138 A. D. His works on midwifery show that practical obstetrics was at that time relatively better understood than any other branch of medicine.

Claudius Galen, the most important man Asia Minor has produced in the field of medicine, after Hippocrates, was born at Pergamus, 131 A. D. At the age of 15 he commenced the study of the prevailing systems of philosophy and of medicine, first at Pergamus and later at Corinth. At the age of 21 he went to Smyrna and visited most of the interesting places in Asia Minor and Palestine. He went to Alexandria and spent considerable time in the great library and museum, and was much interested in the study of the complete human skeleton contained in the museum.

At the age of 28 he returned to his native city, Pergamus, and engaged in the practice of medicine in connection with the gymnasium, and rapidly acquired a high reputation. Six years later he changed his residence to Rome, where he not only engaged in general practice but also in lecturing on anatomy and physiology, and by his unusual attainments and industry he soon attracted general attention. He went back to Pergamus but one year later he was induced by the emperor, Marcus Aurelius, to again visit Rome, where he became physician in ordinary to the ruler and continued there until the end of his life, about 206 A. D. He was a very industrious student and prolific writer on a wide range of subjects. His works on grammatical, mathematical, philosophical and legal subjects numbered 125. His independent works on medicine were eighty-three and his commentaries on the works of Hippocrates were fifteen. His treatises on medical subjects were called canonical because they remained the chief medical text-books through the middle ages, or more than 1,000 years.

The old statement that there is nothing new under the sun seems again to be verified in the statement that Laennec, to whom is attributed the discovery of the method of physical diagnosis, inspection, palpation, percussion and auscultation, was not the originator of these methods, but only perfected their use as an art. Cordell (*Bull. Johns Hopkins Hosp.*, December, 1909) calls attention to the fact that Aretæus, the Cappadocian, a successor to Hippocrates, a student of his works, and a contemporary of Galen in the second century of the Christian era prac-

ticed all these methods. Aretæus, as disclosed in his writings, was a very acute observer, and by inspection of his patients noted the character of the respiration, posture, decubitus, color, heat and swelling of the surface, the condition of the veins, tongue, pulse, nails, sputum, etc. He likewise resorted to palpation in enlargement of the liver and spleen, and notes the change in the position of ascitic fluid with change in posture of the patient, and by percussion noted tympanites, saying that the abdomen when tapped sounded like a drum. Hippocrates describes râles in diseases of the lungs, such as pneumonia, phthisis, empyema, etc., and they are also referred to by Cælius Aurelianus in the fifth century A. D. and by Paul of Ægina in the seventh century. The term percussion is used by Aretæus in describing the symptoms of asthma, a name which evidently embraced other conditions giving rise to dyspnea, besides that to which we limit it. Hippocrates also laid much stress on succussion sounds in empyema. It is a fact of the highest interest that Aretæus recognized heart murmurs by auscultation, and he seems the only one of the ancient writers who auscultated the heart.

Constantine was the first of the Roman emperors to embrace the Christian religion, and in 312 A. D. he proclaimed at Rome religious toleration. In 330 he moved his seat of government to Byzantium, which subsequently took the name of Constantinople. It was by decree of Emperor Constantine that the pagan institutions of Æsclepiadæ and all medical institutions under pagan control or Greco-Roman philosophy that recognized the worship of many gods were confiscated. The emperor's mother, Helena, at the same period was devoting much of her time and means to the founding of a general hospital for the sick and poor in Jerusalem. Another hospital was established at Antioch about 363 and still another noted one was organized at Cæsarea.

The Egyptians were the aristocrats of antiquity. It is true that the Greeks described all non-Hellenic nations as barbarians, but by no means did they regard all other nations as less civilized than themselves. To be sure, they did hold this attitude toward the Romans, Persians, Scythians and various other contemporary nations, but they made an exception in the case of the Egyptians. They regarded these people with something akin to reverence, as a people who could claim an antiquity of civilization to which Greece could not at all pretend.

It was gladly admitted by the Greeks that these oriental civilizations had flowered while Greek culture was yet in the bud. Solon, the law-giver, was reported to have traveled in Egypt, and to have been widely patronized by the Egyptian priests as the representative of an infant race. An Egyptian priest lectured the famous Greek in this manner: "O Solon! Solon! You Hellenes are but children." Herodotus, though ostensibly writing of the Persian War, devoted whole sections of his history to Egypt, and accepts, as did his countrymen, the Egyptian claim to immense antiquity. Plato even resided for some years in Egypt, as Diodorus tells us, in the hope of gaining an insight into the mysteries of oriental philosophy. Nothing is more explicit than the testimony of Diodorus who, writing some three centuries after what we now speak of as the Golden Age of Greece, plainly indicates that not Greece but Mesopotamia was looked to in his day as the classic land of culture, and we of to-day are enabled to catch glimpses of the data on which that estimate was based and to understand that the fabled glory of ancient Assyria was no myth but a very tangible reality.

The history of Babylonia has an interest of wider kind than that of Egypt from its more intimate connections with the general history of the human race and from the remarkable influence which its religion, its science and its civilization have had on all subsequent human progress. Its religious traditions, carried away by the Israelites, who came out from the Ur of the Chaldeas (Genesis, xi, 31) have through this wonderful people become the heritage of all mankind; while its science and civilization through the medium of the Greeks and the Romans have become the basis of modern research and advancement.

Babylonian culture was the oldest in the world, and at the same time was the mother of all other civilizations of antiquity, as has been claimed by Hammel. It is possible that even the Egyptians derived some of the elements of their culture from the Babylonians or Chaldeans.

The world historic relations of Mesopotamian art are best brought out by a study of the later and more perfectly preserved examples of Assyrian craftmanship. It was the Assyrian who borrowed more directly from the Babylonians and the Egyptians in developing his art and who passed those artistic impulses to the Persians on the one hand and the Greeks on the other. The monuments of Assyria furnish us with very important data as to the origin of many branches of art, subsequently brought to the highest perfection in Asia Minor and Greece. The indirect period of this influence is fully and completely illustrated by the monuments of Asia Minor of the time of Persian domination. The Zantian marbles acquired for England by Sir Charles Fellows and now in the British Museum are remarkable illustrations of the three-fold connection between Assyria and Persia, Persia and Asia Minor, and Asia Minor and Greece. Were those marbles properly arranged and placed in chronological order, they would afford a most useful lesson and would enable even a superficial observer to trace the gradual progress of art from its primitive rudeness to the most classic conception of the Greek sculptor. Not that he would find either style the pure Assyrian or the Greek in its greatest perfection, but he would be able to see how a closer imitation of Nature, a gradual refinement of taste, an additional study had converted the hard and rigid lines of Assyrian into the flowing draperies and classic forms of the highest order or art. This second period has been termed that of indirect influence because the arts did not then penetrate directly into Asia Minor from Assyria but were conveyed thither through the Persians. The Persians introduced into Asia Minor not only the arts but the religion as well that they received from the Assyrians. Thus, the tombs at Xantas and at Persepolis show a gradual progress in the mode of treatment, the introduction of action and sentiment and the knowledge of anatomy which mark the distinction between Asiatic and Greek art. Many architectural ornaments known to the Assyrians passed from them directly or indirectly into Greece. The Ionic column is an instance.

The three fundamental canons, "proportion, action and aspect," have been successfully met in all Assyrian art. The bas-relief of a wounded lion in the British Museum will prove this assertion. Still, though these bas-reliefs have an intrinsic worth as works of art their chief value is for what they teach regarding the evolution of art in the world. Previous to their discovery it had been supposed that the stiff formalism of the Egyptian sculpture represented the fullest flight of the pre-Grecian art and that Greek art itself had stepped suddenly forth, rather a new crea-

tion than an evolution. But, as I said previously, the pick and shovel of Layard at Nineveh dispelled that illusion, for these art treasures that had lain there under the deposits of centuries were found to represent an enormous advance on Egyptian models precisely in the direction of that realism for which Greek art is distinguished.

If we would judge how direct and unequivocal was the impulse which the dying nation transferred to the adolescent in point of art, we have but to take a few steps in the British Museum from the Assyrian rooms to the wonderful hall that holds Lord Elgin's trophies from the desecrated Parthenon. Look, then, on the frieze of the bas-relief that bears the magic name of Phidias. If anything can reconcile us to the act that deprived Greece of her precious heirlooms it is the fact that they have found lodgment here close beside their oriental prototypes, where half a million visitors each year may at least have an opportunity to learn the lesson that human progress is an accretion, a growth, a building on foundations; and, specifically, that Greek art, no less than other forms of human culture, was an evolution, and not an isolated miracle.

Consequently we cannot fully realize all of the Egypto-Asiatic influences on European civilization and progress until we imagine this work taken away and view the vacuum that would be left. Science would become bold and ragged; history would lose its charm and fascination; medicine would be barren and uninteresting; some of the brightest jewels would drop from the crown of literature, and the fairest garments would be shed from the shoulders of art.

Some of these southwestern Asiatic races, namely, the Chaldeans, Assyrians, Babylonians, Phœnicians, Hebrews and Egyptians (our neighbors on the border land) had an organized civilization long before Socrates taught philosophy or before Herodotus wrote history. These antique races had literature before most nations had letters, and art while other nations knew only war and savagery. Draper quotes Cabanis as saying specifically of the Jews, that "they were our factors and bankers before we knew how to read."

With these facts in view I have come to the conclusion that the influence of Hellenic civilization, of which I am an ardent admirer, on European culture at large has been overestimated. While in the meantime the influences exerted on Greek arts and sciences by Egypto-Asiatic civilization has a tendency in certain quarters of either being underestimated or being overlooked entirely. My main object has been to make an effort to replace the honor and credit of the forces which contributed to the development of modern culture, medicine being only an element, where it appropriately belongs.

X-RAY IN PREGNANCY

Angus McLean and P. M. Hickey, Detroit (*Journal A. M. A.*, March 16), report the successful use of the *x*-ray in a patient in whom the differentiation between pregnancy and large fibromyoma failed by other methods. They refer to a previous paper (Journal M. S. M. S., January, 1912), by Dr. Hickey suggesting this method, and the case illustrates its value. It illustrates the case with which the diagnosis can be made and the elimination of uncertainty in many cases in which the thickness of the abdominal walls and the obesity of the patient cause failure of the ordinary methods. Two *x*-ray exposures, each of four seconds, were employed, the rays being directed laterally through the large pendulous abdomen. The case was well-advanced pregnancy, and a normal child was born within a little over a month.

AUTO-INTOXICATION *

BENJAMIN A. SHEPARD, M.D.
Kalamazoo, Mich.

It is the purpose of this paper to consider some factors regarding bacterial activity in the intestinal canal and the clinical importance of such study.

ETIOLOGY

From a bacteriologic viewpoint the intestinal tract must be considered as a very perfect incubator and culture medium combined; not that any one spot contains all the necessary features for all bacteria, but the diversity of reaction and foodstuffs found in the various sections afford a very suitable place for the development of all bacteria capable of growth at body temperature.

Not only is bacterial growth a possibility but a reality and it has been considered by some as being, if not a necessity, at least not abnormal. Opportunity for observation and study of the upper intestinal flora of man is difficult to obtain, and observers have had to depend on early autopsies and fecal fistulas. What I may give in that line is gleaned from those who have been able to make several such observations and from my own limited observation. According to Herter the bacteria in the small intestine of the normal nursling are usually the short Gram-negative bacilli of the colon and *lactis aerogenes* forms; in the lower ileum the bifidus bacteria appear; and in the cecum and first part of the colon it becomes very numerous and nearly if not quite replaces the colon bacillus. By the time the rectum is reached this type appears in almost pure culture. Thus we see that the variety in the infant which is breast-fed is very limited and the varieties present are of the obligate variety while in the bottle-fed infants the variety is greater, especially when the milk is not sterilized or pasteurized. The products of decomposition in the intestine of the normal infant are very small, there being only a trace of indol if any at all. As age advances there is a transition of the intestinal conditions and the more varied diet is accompanied by an increased number of bacterial varieties. Various investigators have found from forty to fifty different forms of bacteria in the intestinal contents, but for the present practical purposes we may divide them into two great classes, viz., proteolytic and fermentative. To a greater or less extent these two divisions are facultative, so to speak; the proteolytic may produce gas while the fermentative may become weakly putrefactive. However, with a protein diet we have an excess of Gram-positive bacteria capable of producing putrefactive products such as indol, acetic acid and hydrogen sulphid, while if we change to the carbohydrate diet the Gram-positive and negative become about equal in amounts, the proteolytic products are greatly reduced or are entirely absent, and indican and aromatic oxyacids of the urine which may be regarded as indicators of more or less value, become diminished in amount or absent.

The *Bacillus bifidus,* while present, is not so numerous. Occasionally we meet with cases which have retained the bacte-

* Read before the Michigan State Medical Society, at Detroit, Sept. 27-28, 1911.

rial conditions of childhood until well advanced in life, but the diversity of diet and conditions have in the large percentage of cases caused changes in the bacterial processes. The constant tendency is the invasion of what we may term foreign bacteria and it is here that the colon and other bacteria render their greatest aid by inhibiting the growth of more harmful germs; but in most adults they are more or less unsuccessful and there takes place in the intestine the formation of substances which are more or less toxic to the economy. Herter in a series of experiments on monkeys, after a considerable period of feeding exclusively on hard-boiled eggs, found that in these animals the proteolytic bacteria become dominant in the alimentary canal. The animals developed a state of drowsiness, remained on their perch, grew stupid, responded poorly to outside stimuli, and showed but little interest in their surroundings. As he added carbohydrates to their diet both the psychical and physical attitude of the animals underwent a marked change — the posture became erect and their usual brightness and alertness returned. Herter believes the symptoms observed on the protein diet were signs of intoxication brought about through excessive use of protein and its putrefaction. We must remember that digestion, whether normally so or not, is a double process, an enzymic and microbic one. Both enzymes and microbes transform starch into sugar, emulsify fats, and transform proteids into peptones — but the work of the microorganisms does not stop here, for if unchecked they bring about further cleavage, and putrefactive changes take place with the products previously referred to.

Under normal conditions little or no putrefaction occurs in the small intestine. It is ordinarily the foods or secretions rich in proteids which undergo putrefaction, and here I would emphasize that the secretions may undergo putrefaction and that we may have it taking place during complete fasting. The *Bacillus aerogenes capsulatus,* or gas bacillus, is the most important of the anaerobes which cause fermentation and putrefaction in the large intestine, because of the frequency of its occurrence and its intensity in those processes. Herter in one instance found evidence of its wandering as high as the middle of the small intestine in a dog. In human beings with anaerobic infection the colon bacilli are greatly diminished or absent in the feces, from which we would conclude that they were diminished in the small intestine. In saccharobutyric putrefaction there is an excessive production of butyric acid on an ordinary mixed diet. Of the nitrogen products of putrefaction there are several known but little understood — ammonia, the amins, diamins, cholin, neurin, sulphur compounds and the aromatic bodies. The organism is prepared to take care of a moderate amount of ammonia which as we know unites in the liver with carbon dioxid and forms urea, but it is possible that it also unites with other substances and forms irritants.

Of the sulphur compounds hydrogen sulphid is the most important, but we are little informed on the effect when it is produced in the intestine, though there have been cases reported of poisoning by this gas. The symptoms have been of a nature pointing to a disturbance of the central nervous system, such as vertigo, headache, delirium, mental depression, stupor and possibly collapse.

Phenol and cresol seem to be unimportant from a toxic standpoint in the amounts produced. Skatol like indol is derived from tryptophan, and there are reasons to believe that it resembles indol in its power of damaging the tissues — though in a lesser degree. Indol does not

result from tryptic digestion, though it is one of the products of proteid cleavage. but is a resultant of bacterial action on proteids which have been brought to the tryptophan stage of digestion, where it forms a favorable pabulum and is probably attacked by a form of the colon bacilli. Indol is absorbed and perhaps some of it burned in the system, but it is mostly eliminated and large amounts are found in the urine of persons in whose intestine the proteids are being rendered into indol. This is perhaps the principal toxin ordinarily formed in the intestine, though it will be described clinically with the rest since it acts largely with other products of putrefaction.

Against the poisonous materials the normal organism protects itself through the action of the intestinal epithelium and the liver which destroys most of the toxins while the excretory organs eliminate the remainder. Under certain conditions, however, we may find these products generated in excess of the powers of the economy to dispose of them, or those powers may fail in efficiency, the former condition being the more frequent. This may be due to various disturbances in the normal course of digestion, errors in diet, qualitative or quantitative, or the cause may lie in the organism itself as, for example: gastric atony with or without dilatation plays an important part, or the gastric secretions may become defective. Intestinal atony plays a very frequent and deleterious part, the more serious the higher up in the intestine the stasis occurs — and once stasis takes place we are in sight of anto-intoxication with all its consequent evils. The symptoms will be found to vary according to the intensity of the conditions and the susceptibility of the individual, some people being very susceptible to the poisonous effects of decomposition products.

DIAGNOSIS

There may be more or less continued diarrhea (or it may be intermittent), there may be simply a large amount of fermentation with a large production of intestinal gas, or, what is more common, constipation, and it is to be remembered that because a patient has a daily evacuation it does not mean that the material has not remained in the intestine an abnormally long time and hence the importance of testing the motility of the intestine. There may be found an apparent diarrhea and constipation coexisting. Such conditions cannot long persist without causing various disturbances such as coated tongue, bad taste, bad breath, headache, a drowsy condition during the day and a restless sleep at night, abnormal perspiration. various nervous and mental depressions. neuralgias and myalgias, often irritation of the kidney and even the bladder with their consequent results. Herter has by the administration of indol produced in man frontal and occipital headache, colic, lassitude and insomnia, and after the continued administration a tendency toward neurasthenia. Prominent otologists and ophthalmologists have emphasized the importance of auto-intoxication in the etiology of certain otic and optic conditions. This has been very forcibly brought out recently in a case of auto-intoxication which I referred to a competent oculist without giving him the clinical findings, and which he sent back to me with his opinion that the ocular findings indicated that the patient was suffering or had recently suffered from auto-intoxication and that if it continued the results to the eyes would be serious.

Putrefaction may be divided into two classes: (1) that which is the result of bacterial cleavage replacing to a large extent the tryptic digestion, which is caused by excessive growths of members

of the colon bacillus group which ascend high in the small intestine and as a result of which tryptophan is changed by the putrefactive process and indol and other members of the group formed; (2) the saccharobutyric form of putrefaction takes place in the lower ileum and in the colon where the aerogenic conditions are right. These organisms attack proteids and carbohydrates and form butyric acid and other products such as proprionic acid, caprionic acid, etc., which give to the stools the characteristic odor; the stools have an acid reaction and may be very light in color and have a low specific gravity. In this form may sometimes be found the formation of ammonium butyrate which may irritate the bowel causing diarrhea. Patients suffering from anaerobic infection bear carbohydrate diet and acids badly. They suffer from flatulence. Anemia is found in nearly every case varying from the moderate secondary anemia to the more severe or pernicious anemia. (I would mention here that there is a wide variation in the susceptibility of individuals to the toxins and their manifestations of symptoms, the subjective symptoms varying from a slight headache or vertigo to epileptic convulsions.)

TREATMENT

In the treatment of these cases the greatest care is needed and we must have the intelligent cooperation of the patient. It is my rule to have the teeth examined by a thorough and competent dentist who understands the importance and significance of mouth infections. Local infections here must be one of the first things to be excluded. Gastric functions should be thoroughly examined and carefully watched. Cooked foods should be used as much as possible, and yet we cannot depend on sterilization in this way entirely, as the means of eliminating bacteria, as the anaerobic bacilli causing trouble lower down are spore-forming germs. Thorough mastication, the addition of dilute hydrochloric acid if indicated and attention to the motor functions are important factors in the treatment. Medicines which have been of service are the salicylates, formin, guaiacol and others. The growth of lactic acid bacteria in the intestine has proved of value in my work. Laxatives and cathartics are often followed by a temporary amelioration of the symptoms. Colonic irrigation I believe to be of great value.

The prognosis can only be given after a thorough study of the case. The tendency is for the early development of senile changes even in mild cases that persist for any great length of time. In a large percentage of cases with intelligent cooperation of the patient we may expect good results.

NOTE CHANGE OF DATE OF ANNUAL MEETING
TO JULY 10 AND 11, 1912

The Journal of the
Michigan State Medical Society
Published under direction of the Council.

PUBLICATION COMMITTEE:
A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
W. J. DuBOIS, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek.
(Ex-Officio)

EDITOR.
WILFRID HAUGHEY, Battle Creek.

EDITORIAL COLLABORATORS:
J. V. White, Detroit, 1st District.
George R. Pray, Jackson, 2d District.
....., 3d District.
C. E. Boys, Kalamazoo, 4th District.
T. De Witt Gordon, Grand Rapids, 5th District.
C. B. Burr, Flint, 6th District.
Daniel Conboy, Bad Axe, 7th District.
B. B. Rowe, Saginaw, 8th District.
Robert E. Wells, Traverse City, 9th District.
F. E. Ruggles, Bay City, 10th District.
V. A. Chapman, Muskegon, 11th District.
E. H. Webster, Sault Ste. Marie, 12th District.
C. M. Williams, Alpena, 13th District.
Reuben Peterson, Ann Arbor, 14th District.

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A.M., M.D., Editor, 24 West Main Street, Battle Creek, Mich.
The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

Subscription Price $2.00 per Year, in Advance.

JUNE

EDITORIAL

THE RADIUM CONTENT OF DIORADIN

While it is probable that radium with its marvelous emanations will be found to possess distinct and well-defined therapeutic properties, for the present at least its chief value appears to reside in the magic of its name. For this reason exploiters of "radium preparations" are as a rule silent as to the amount of radium contained in their preparations. This is, to the exploiter, a safe and satisfactory procedure, for almost all natural products, even rain water, have been found to be radio-active. Appreciating apparently that physicians are inclined to be unfavorably impressed with "formulas" that give no clew as to the quantities of the claimed constituents, some promoters of radium preparations now make a statement regarding the radium content of their specialty. Thus the manufacturers of Dioradin declare on the label the radium content of their products as follows: "One C. T. M. cube contains . . . one-tenth of a drop of a solution of radium of 5 millions unity Mache."

While manufacturers should be able to make accurate determinations of the radio-activity of their preparations and place on the market products of a stated radio-activity, an examination, made in Holland, of a specimen shows that the claims of the manufacturers of Dioradin are not always to be relied on.

E. H. Büchner, privat-docent of the science of radio-activity at the University of Amsterdam reports (*Pharmaceutisch Weekblad,* March 2, 1912, p. 161) an examination of Dioradin of which the following is an abstract:

"The contents of a Dioradin ampule was mixed with 10 c.c. of alcohol in a glass cylinder and sealed with a stopper containing a glass tube passing to the bottom of the vessel. The emanation was obtained from the fluid by passing through it a current of air, to the electroscope. The emanation thus obtained was compared with that of a solution containing a known quantity of radium bromid. The Dioradin emanation caused an action represented by 20 lines on the scale per hour. The general rule is that a solution of 1.1×10^{-11} gm. radium corresponds to 10 lines per hour, and consequently the Dioradin solution represents 2.2×10^{-11} gm. radium or 3.8×10^{-11} gm. radium bromid. A better idea of these findings can be obtained by comparing the price of the radium salt involved. Assuming that 1 gm. of pure

radium bromid costs 250 francs ($50) then the amount in the Dioradin ampule is worth 0.001 centime (0.0002 cent). Expressing the values in Mache units, as is more customary in medical application, the amount of emanation corresponds to about 0.1 Mache. This calculation is not exactly correct as great confusion still prevails in the science of radio-activity, and the statement that 1 liter of water represents 100 Maches requires further explanation to make it exact. It may not be superfluous to state that the radio-active waters of the General Radium Society are used in doses of 1,000 Maches per day, and that sometimes injections of the same amount are prescribed.

Assuming 1 drop of the radium solution used by the manufacturers of Dioradin to contain 0.0000038 gm. radium, one ampule should contain 0.00000038 gm. radium. Büchner's results indicate the presence of only 0.000000000022 gm. radium, and hence the Dioradin ampule contained less than one-one thousandth of the claimed radium content.

While examination of one specimen made in Holland is no proof that all specimens of Dioradin contain but a small fraction of the radium which they are said to contain, it proves at least that the manufacturer's claim should be viewed with suspicion. Physicians who are asked to use this preparation should refuse to do so until it has been approved by the Council on Pharmacy and Chemistry.

LEPROSY IN MICHIGAN

During the past month the public press has reported the presence of a case of leprosy in Bay City. Some months ago a case was reported in the Northern Peninsula. Leprosy has been known since the earliest times. It is spoken of indirectly in several parts of the early books of the Bible. Later it became quite prevalent. During the middle ages it was quite extensively prevalent in Continental Europe, England and Scotland, but declined in the fifteenth century, practically disappearing a century later. In the last hundred years it has again assumed considerable prominence.

In 1879 Hansen discovered the germ of leprosy but attempts since then to grow the germ outside of the human body have been failures. It is true that Rost of the British Army Medical Corps claims the successful cultivation of the leprosy bacillus in salt-free bouillon, but his work has not been confirmed.

Attempts to transmit the disease by direct inoculation of leprous tissue have been unsuccessful. It is generally admitted that leprosy is not infectious or is very slightly so. The incubation period has been estimated at any place from a few months to forty years. It has been claimed by a number of observers that leprosy must be transmitted through an intermediate host, similar to malaria and yellow fever, but this has not been proved. It is known that the contagion is slight, probably requiring prolonged personal contact.

Leprosy has always been looked on with horror, as witness the habit of the Jews, segregating the lepers and compelling them to call out "unclean" when meeting any one. The treatment is becoming more and more humane. Ages ago lepers were banished from the sight of man, practically, forced to live in caves and absolutely segregated from healthy people. Now they are put on reservations where they have all modern conveniences and are given the best of care. They are often allowed to live with their families in isolated places, the other members of the family not, as a rule, contracting the disease.

The Bay City case recently reported is that of a Russian Jew, 50 years of age, a rag pedler who in the ordinary course of business was sent by his Bay City physician to Dr. Andrew P. Biddle of Detroit in consultation, where, though the disease was recognized clinically, he was not told the nature of the disease, pending confirmation of the diagnosis by laboratory findings. He evidently mistrusted something for in a day or two he left Bay City for parts unknown, but was finally located at Centerville, Iowa. He will probably be brought back to Bay City and placed on a farm where his wife may stay with him. He has the nodular form of leprosy and has had the trouble about eight months. From the tissue sent to the State Board of Health at Lansing the diagnosis was microscopically confirmed. Later the diagnosis was further confirmed at the pathologic laboratory of the University of Michigan by Professor Warthin.

THE COUNCIL ON PHARMACY AND CHEMISTRY

Last month, under the above caption, we published a list of the journals which followed the Council on Pharmacy and Chemistry in advertising. We inadvertently left out of this list the *Pennsylvania Medical Journal,* the official organ of the Medical Society of the State of Pennsylvania, which has been following the Council for a considerable time. We are glad to make this correction and would be pleased to place in this list any other journal which we may have omitted.*

ETHICS

VI. SECRET DIVISION OF FEES

For some time past there has been much discussion through the medical journals and in the medical societies of the evil of fee-splitting. The Michigan State Medical Society, at its last meeting, appointed a committee to study this subject. The Erie County (New York) Medical Society, some time ago, through a special committee appointed for that purpose, presented an elaborate report on fee-splitting. The Wayne County Medical Society has recently appointed a similar committee to report in October.

There seems to be much difference of opinion on this subject. Many surgeons and specialists are splitting fees as a matter of self protection. They are compelled to do so to make a living. One surgeon in Michigan has remarked recently that for years he declined to split fees but it became absolutely necessary for him to do so in order to get enough business to live, because of the fact that other men did split fees and the work which formerly came to him was being referred to the other men, even though in many instances they were less competent.

Those in favor of fee-splitting argue that the attending physician is entitled to a reasonable compensation for making the diagnosis and referring the patient to the proper specialist or surgeon. Others say that the remuneration of the surgeon or specialist is out of all proportion as compared to the remuneration of the general practitioner, and that in paying the fee charged by the surgeon the patient has nothing left to pay the general practitioner; therefore it is just and proper that the man who takes all the money the patient has should divide with the man who referred the case to him.

Other advocates of fee-splitting say that this is the only way they can get anything at all for their services to certain of their patients. Advocates of this practice have become so numerous that recently a county society in Iowa passed resolutions favor-

* May 24.—The Journal of the Kansas Medical Society for May, just received, contains no advertising not approved by the Council on Pharmacy and Chemistry and announces that advertisements of drugs not approved by the Council will not be accepted.

ing the practice under condition that a fixed percentage be always paid for referred cases.[1]

There are also arguments opposing the practice of fee-splitting. Dr. A. S. Draper, State Commissioner of Education of New York, in a recent report says: "It is certainly reprehensible because it develops the motive for deception and overreaching, and it changes the relation of the parties from a personal and professional into a commercial one." He also says: "Collusion between surgeons and physicians is shown by the 'split-fee' system which makes patients the victims of practitioners and surgeons and which presents both divisions of the profession as conspirators in the overmulcting of patients who are alike deceived and robbed." [2]

"The practice cannot be too strongly denounced and it should be penalized the same as rebating by the transportation companies has been, and the ones to be penalized should be the givers of the rebate. The consultant, whatever be his line of work, who tries to increase his practice by offering to split fees with the physician who sends him cases, is beneath contempt. The practice is contrary to the traditions and ideals of American medicine and it must and will be stamped out." [3]

It would seem that this practice of fee-splitting is prohibited by the law of the state of Michigan; Act. No. 161, Public Acts of 1905, referring to the power of the Board of Registration in Medicine to revoke or refuse to issue certificates of registration, says: " . . . The Board may . . . revoke the certificate of registration after due notice and hearing of any registered practitioner . . . who shall . . . pay or present money or other valuable gifts for bringing patients to him." [4] Act 210, 1905, says: " . . . An agent, employee or servant who, being authorized . . . to employ service or labor for his principal, employer or master, receives directly or indirectly . . . a commission, discount or bonus . . . from a person who renders such service or labor; and any person who gives or offers such an agent, employee or servant such commission, discount or bonus, shall be deemed guilty of a felony, etc." [4]

The New York County Lawyers' Association in January, 1912, adopted a code of ethics in which appears the following: "He (the lawyer) should not accept any costs or compensation for services rendered in his client's matters without his client's knowledge; and he should not, without his client's knowledge and consent, accept any portion of the fees charged by other attorneys or individuals or corporations employed by him in his client's business." [5]

The practice of fee-splitting seems to permeate the whole country. It has become so noticeable that lay magazines are commenting on it.[6] The practice is even deeper than fee-splitting. Patients are grafted on all along the line. Some drug stores pay physicians a regular commission on all the prescription work sent them. Some orthopedic appliance houses pay a commission, some maternity houses, habitué sanatoriums, etc., have fallen into the split-fee habit, and last but not least we have recently heard of an undertaker who had been solicited for a $5 "rake-off" for all cases turned over to him, and this solicitation came not from one lone doctor, but from seven.

1. Jour. Iowa State Med. Soc., February, 1912.
2. Brooklyn Daily Eagle, Jan. 30, 1912.
3. Le Fevre, Egbert: New York State Jour. Med., March, 1912, p. 113.
4. Public Acts of 1905, Michigan.
5. Long Island Med. Jour., January, 1912, p. 14.
6. Dosch, Arno: The Farce of Medical Ethics, Pearson's Magazine, September, 1911. Reed, C. A. L.: The Farce of Medical Ethics, Pearson's Magazine, April, 1912.

It is high time that the medical profession either convinced the people that these forms of graft are legitimate, or cleared themselves of the suspicion, which we wish we might believe only rarely just.

COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

The Council on Health and Public Instruction of the American Medical Association was appointed at the St. Louis meeting. Since that time it has been perfecting its organization and unifying the work delegated to it. The work of the Council is and should be among the most important of the Association. During the past year public lectures have been held in every state in the Union by men from adjoining states eminently competent to talk to the public on matters in which they are interested. Several of these lectures have been given in Michigan by such men as C. A. L. Reed of Cincinnati, M. P. Ravenel of Madison, J. N. Hurty of Indianapolis and N. P. Colwell of Chicago. The Council plans, in the near future, to issue a lyceum bureau outline list of the various lecturers available and the subjects on which they will speak.

The Council is also sending each week to about 3,000 newspapers in the United States a proof-sheet of editorial comments, abstracts of scientific papers and other items of general information to the public. Matter from this press bureau is being largely copied by the press throughout the country, sometimes being used as news items but frequently being used as editorial matter.

The Council has issued a series of medical cartoons which have appeared from time to time in *The Journal of the American Medical Association.* These cartoons were republished in the American Medical Association *Bulletin* just issued, together with the statement that they are available for use on application to the Secretary, 535 Dearborn Avenue, Chicago.

The Council on Health and Public Instruction has in charge the progressive legislation for which the medical profession stands, and is endeavoring to secure the passage at Washington of a bill providing for a department of health. The bill which now meets the requirement best of any is the Owen bill of which all possibly objectionable features have been removed.

Recently one of the senators from Washington read to the Senate a list of telegrams from constituents of his opposing this bill. He stated that the only information he had from his constituents was in opposition to the bill and he must represent his constituents. It would be well to let our senators and representatives know the feeling of the profession in regard to this public health legislation, that they might not have the same excuse for voting against this bill.

IN MEMORIAM

Dr. A. W. Martin, University of Michigan, 1900; a member of the Montcalm County and Michigan State Medical Societies, died at his home in Howard City, April 5.

Dr. Wm. W. Root, University of Michigan, 1862, died at his home in Mason, April 23, age 75.

Dr. C. E. Spencer, Bellevue Hospital Medical College, New York, 1873; member of the St. Clair County and Michigan State Medical societies, died at his home in Port Huron, May 5, of apoplexy, age 63.

Dr. Talbert Sleneau, University of Michigan, 1883; member of the St. Clair County and Michigan State medical societies, died at his home in Port Huron, April 21.

MUSKEGON, MICHIGAN — INFORMATION CONCERNING MUSKEGON AND THE MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY

OFFICIAL CALL

The 47th annual meeting of the Michigan State Medical Society will be held on Wednesday and Thursday, July 10 and 11, at Muskegon. The 4th annual meeting of the County Secretaries Association will be held on Tuesday, July 9, at 2 p. m., at the Occidental Hotel, Muskegon. The Council will meet in the evening of July 9.

D. Emmett Welsh, President,
Wilfrid Haughey, Secretary.

MEETING PLACES AND EXHIBITS

It is planned to hold all of the sessions of the Michigan State Medical Society meeting beneath one roof. The beautiful roomy well lighted Hackley school building has been obtained. There is a large auditorium on the top floor with a stage where general sessions may be held. The higher grade school rooms on the upper floors are well adapted for the section meetings. The large main hall on the ground floor is excellent for the commercial exhibits. This should attract a large number of exhibitors as the entrances to the building are at this hall and all members in attendance at the general meeting and sections will pass through the exhibit hall going and coming. All those contemplating making an exhibit at any State Medical Society meeting this year will do well to consider this and bring their exhibit to the meeting of the Michigan State Medical Society at Muskegon. Dr. J. T. Cramer of Muskegon

Occidental Hotel—Headquarters.

LOCAL ENTERTAINMENT

The local committee on entertainment to be provided outside of the regular program for the meeting of the Michigan State Medical Society at Muskegon July 10 and 11 is doing active work and there will be plenty of entertainment provided for visiting members and their wives and guests. Automobiles will be provided in abundance for drives about the city and surrounding country and lake shores. Several social affairs are being planned.

has charge of the matter of space for exhibits and should be communicated with by exhibitors.

The following have already engaged space for exhibits at the meeting of the Michigan State Medical Society to be held at Muskegon, July 10 and 11. Numerous inquiries are being received daily and early action should be taken if there are others who desire to make an exhibit as the available space is limited.

J. F. Hartz Company, Detroit, Mich. (Physicians' Supplies).

Postum Cereal Company, Battle Creek, Mich. (Postum).

Mellins Food Company, Boston, Mass. (Mellins Food).

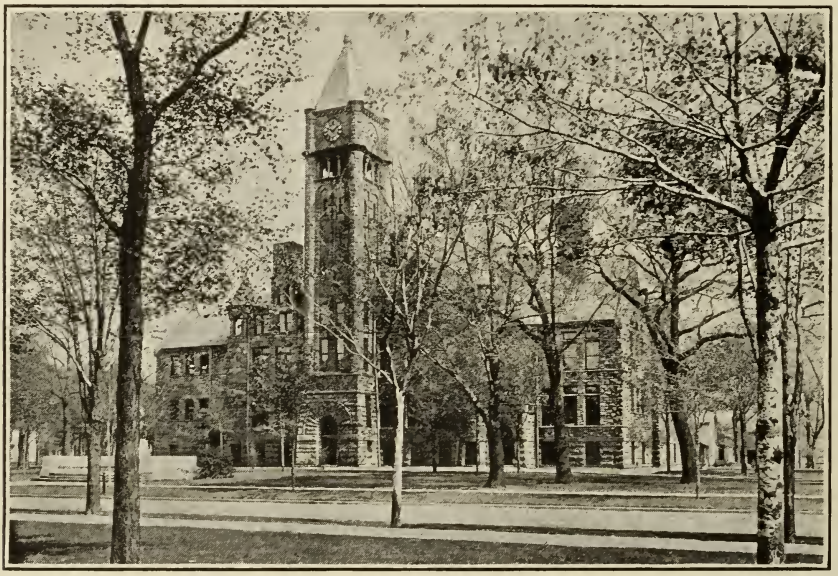
G. D. Searle & Co., Chicago, Ill. (Mfg. Chemists).

Horlick's Malted Milk Co., Racine, Wis. (Malted Milk).

HOTELS AND ACCOMMODATIONS

Visitors who will be in Muskegon to attend the annual meeting of the Michigan State Medical Society will find ample accommodations for board and lodging at the following places recommended by the local committee of Muskegon.

Occidental Hotel, European plan (Headquarters): Single without bath, $1, $1.50, $2; double without bath, $2, $2.50, $3; single with bath, $2, $2.50, $3, $4; double with bath, $3, $4, $5, $6. Dining-room in connection.



High School—Meeting place and exhibits.

Maltine Company, Brooklyn, N. Y. (Malt Extract).

G. S. Sherman, M.D., Detroit, Mich. (Bacterial Vaccines).

Bordens Condensed Milk Company, New York (Condensed Milk).

Welch Grape Juice Company, Westfield, N. Y. (Grape Juice).

DeVilbiss Mfg. Co., Toledo, Ohio (Instruments).

Chas. H. Phillips Chem. Co., New York (Milk of Magnesin) (Phopho Muriate of Quinine).

Reed & Carnrick, Jersey City, N. J. (Drugs).

American Case & Register Co., Salem, Ohio (Acc't Registers and Systems).

Lake Harbor Hotel is operated under the same management as the Occidental Hotel and is strictly on the American plan and the rates are figured accordingly. Rooms without bath, $4 per day; rooms with bath, $5 per day. This rate of course includes both room and board.

Park Hotel, European plan, rooms 75c to $1.

Hotel Hammerschmidt, European plan, rates 50c to $1.

Those rooming at any of the hotels with the European plan may conveniently obtain meals at the following restaurants within a door or so of the Hotel.

Silver Moon, European plan, 239 W. Western Ave., good meal may be had from 25c to $1.

Brebner's Cafe, European plan (Elks Temple), a very excellent meal is served rates varying from 25c to $1.

These places recommended by the committee are all, with exception of Lake Harbor Hotel, located from within two to four blocks walk of the Hackley school building, where the general and section meetings will be held.

Besides these there are a number of private boarding houses in the downtown portion of the city near to general meeting place. There are a large number of smaller summer hotels on the shores of Muskegon Lake, Lake Harbor, and Bear Lake, where excellent accommodations may be obtained at very reasonable rates. At any one of these summer hotels excellent boating and fishing may be obtained. Families could spend a week or two, preceding or following the State Society meeting, at these hotels very pleasantly.

The committee on hotels will have a full list of accommodations with rates and will be glad to assist all visitors to obtain suitable location. Or, such arrangements may be made previously by addressing communication to the chairman of the committee, Dr. A. A. Smith, Muskegon, Michigan.

AUTOMOBILING AND GARAGES

Muskegon is well supplied with efficient garages for caring for automobiles. No hold-up tactics are employed in these garages. Physicians of the state who can come to the Michigan State Medical Society meeting by automobile should do so. The roads about Muskegon and Oceana counties are splendid for automobiling.

The country is beautiful. The territory around about Muskegon contains some of the finest small fruit and berry farms to be found anywhere. These are worth seeing. The territory of northern Muskegon County and the whole of Oceana County adjoining on the north contains some of the very finest fruit farms in the world. An automobile trip from Muskegon through northern Muskegon County and on into and across Oceana County is a pleasure not lightly to be passed by. Western Michigan is bound to be one of the most important fruit producing sections of the world. Muskegon and Oceana counties are in the lead in making this true.

Masonic Temple.

SOMETHING ABOUT MUSKEGON

Twenty-five years ago Muskegon was one of the great lumber marts of the world. Many are living now, who could tell how, back in the days of old, when the hum of the saw was heard everywhere, Muskegon for its size was the biggest little city in the country. These same old pioneers will now wag their heads wisely and say: "Ah, them was the days."

Muskegon Harbor.

While it is true that in those days Muskegon was a busy town, it is also true that the place had only one principal line of manufacture, namely: sawmills. There were no wide, attractive, paved thoroughfares, no large handsome business blocks of any consequence, or electric light plants. There were but few improvements of any nature and yet Muskegon progressed in those days like a green bay tree.

As year by year rolled by and the great sawmill industry commenced to dwindle, keen, shrewd men of business realized that to make Muskegon keep up a stride of improvements many radical reforms and changes were necessary. If the sawmill industry were going to die, most important was it, that manufacturers in other lines of business must be secured. These same enterprising citizens commenced to use their influence and capital, and slowly but surely, with the passing away of the sawmill other manufactories located here. The list became diversified, each year saw some new product put on the market that emanated from a Muskegon factory, and thus it comes to pass, good old Muskegon better established and more prosperous than ever, larger in population and with brighter prospects, is 'midst one of the most successful business years in the history of the town.

In libraries, hospitals and other structures Muskegon has a list of handsome edifices any town many times larger might be proud of.

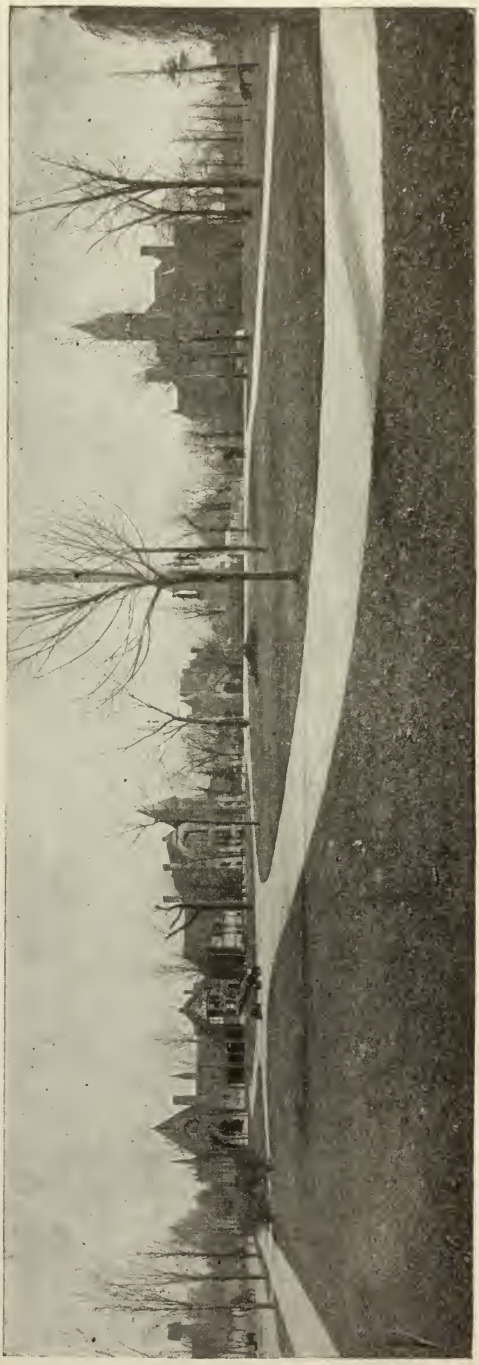
Our neighbor, Grand Rapids, while wallowing in despondency on the subject of impure water (a subject that for years has been discussed in the city on the raging Grand) Muskegon with its unlimited supply, boldly offers to the outside world, as one of its features, pure water—a blessing to any community.

The sewerage system of Muskegon is another feature and to it each year are added miles of new drainage.

Over 70 miles of paved streets are in the corporate limits and more being added annually.

In banks the town is fortunate. Four of the strongest kind of banking institutions are conducting a conservative, successful business. In point of factories Muskegon is particularly fortunate. Some of the largest plants in the state are located here and the aggregate output is something astonishing.

Another important item that adds greatly in making Muskegon successful is the number of large handsome stores that grace the retail districts. To the credit of this burg it can be said



Panorama of Hackley Park.

Panorama of High School, Hackley Manual Training School, and Gymnasium.

that some of the most attractive salesrooms in Western Michigan are to be found right here in our midst.

Muskegon has the facilities and the capital to bring innumerable enterprises here and with the enterprising residents the town has, she is sure to boom.

An old home comer that has been away for a quarter of a century, will find a vastly different Muskegon to-day as compared to what it was 25 years ago.

As the town stands to-day it has a population of about 27,000 people—an energetic, frugal and far seeing community—a class of people that are boosters, not knockers, and that are always looking after the interests of their home town. There is no better harbor on the lakes, than that on which Muskegon is located. It is safe, and, landlocked as it is, can give shelter to the largest fleet of deep water ships.

Two of the greatest blessings in any city are systems of churches and schools. What a great blessing it is to any city that has a splendid system of schools and stately edifices of worship for every creed and religion. Muskegon is indeed blessed in these respects. Her churches and schools are unsurpassed.

PUBLIC SCHOOL SYSTEM

The public schools consist of eleven graded school buildings, each occupying a block square, having play grounds, kindergarten, and one of the newest features, school gardening; high school; Hackley Manual Training School; boys' and girls' gymnasium with a swimming pool; city normal training school, and Hackley Public Library and Art Annex.

Medical Inspection.—The Superintendent and the School Board of the public schools of the city of Muskegon were among the earliest to take up the work of Medical Inspection in the schools and have carried the work to a higher standard than most schools that have adopted it.

Many cities have a school nurse who does the entire work; with, sometimes, the assistance of the city physician or health officer. Some cities provide for medical inspection of schools by a single physician. Medical inspection in Muskegon's schools is carried on through a medical advisory board consisting of three regular practicing physicians of the city; two general practitioners (one male and one female) and one oculist and aurist. A school nurse, devoting her entire time to the work, assisted

Hackley Manual Training School and Gymnasium.

by the attendance officer of the schools: and a corps of dental surgeons. The city physician and health officer cooperates with all of these.

The school board confers with the medical advisory board on all medical and sanitary matters pertaining to the school work. The members of the medical advisory board, besides making inspections of the schools and recommendations to the school board in medical and sanitary matters, carry out a systematic physical examination of all the students in the public schools. In the high school and gymnasium the physical examinations are very thorough and no student is permitted to enter outdoor athletics or participate in the work of the gymnasium or swimming pool without first receiving the physical examination. In this work the examining physicians are assisted by the physical director for the boys and the physical director for the girls, respectively, of the gymnasium.

A systematic examination of the eyes, ears, nose, throat and teeth is given to every student in the grades.

Complete records are kept in all instances. Whenever a student is found physically defective or afflicted with any disease, the parent receives a written notice thereof and the child is from that time until the trouble is corrected, under the supervision of the school nurse. Students with communicable disease are, of course, excluded from the schools until they may return with safety to all concerned.

In a special room in the Hackley School building, well adapted for the purpose, the school board has installed a complete and thoroughly up to date equipment of furniture, instruments, supplies, etc., for dental work for school children who otherwise would not receive such care. Here every Monday forenoon may be found some one of the members of the Society of Dental Surgeons of Muskegon who with the school nurse as assistant devote that half day to charity work for the school children.

Hackley Public Art Gallery.

At the beginning of the medical inspection work in Muskegon's public schools there was some tendency to objection by the parents to the work with regard to their children. This has almost entirely disappeared. Parents now are anxious to have their children receive the benefit of the medical inspection and examination work and accept the warning cards and visits of the school nurse in a spirit of hearty cooperation. All of this has been made possible by judicious tactfulness and by the full cooperation of the superintendent and the school board of the public schools of the city of Muskegon.

THE HACKLEY MANUAL TRAINING SCHOOL

On account of the liberality of Mr. Chas. H. Hackley, than whom before his death, there was no resident more beloved, Muskegon to-day enjoys the distinction of having one of the largest, best equipped and most complete manual training schools in the United States.

The Hackley Manual Training School is situated in the southeastern part of Muskegon on Jefferson street, between Washington and Grand avenues. On the west side of the street, going south, is the high school, with a building frontage of 124 feet, and directly opposite, on a terraced block, is the Hackley Manual Training School, with a building frontage of 254 feet, the grounds of each building occupying an entire block.

The Hackley Manual Training School is a four story building of dark red brick with terra cotta trimmings; dormer windows break the long roof lines, and numerous other deep-set windows give the building a particularly pleasing appearance. It is a solid, massive building, beautiful in its simplicity and architecturally perfect, suggesting in its appearance the substantial character of the work to which it is dedicated.

Entrance to the building is through a beautiful arched doorway; wide staircases lead to the upper stories, and corridors afford access to all parts of the building.

Hackley Public Library.

The wood work and furniture are in natural finish, the floors smooth and solid, in fact, every detail of the building and its equipment is the best that could be procured. It is heated and ventilated by the most improved modern method, using both direct and indirect radiation, and the Johnson and Paul systems of regulation. The windows throughout the building are provided with Chamberlain metal weather strips.

Hackley Hospital.

In the north wing there has recently been installed at an expense of $3,000, an Otis automatic, push-button, electric elevator. The great building contains many rooms, each furnished with all the necessary requisites. There are offices, reception parlors, lavatories, lockers on each floor, a beautiful auditorium, a lunch room, and work rooms of all descriptions.

The first floor is reserved for the heavier manual labor, such as forging, machine work, and molding, together with pattern making, wood turning and applied art.

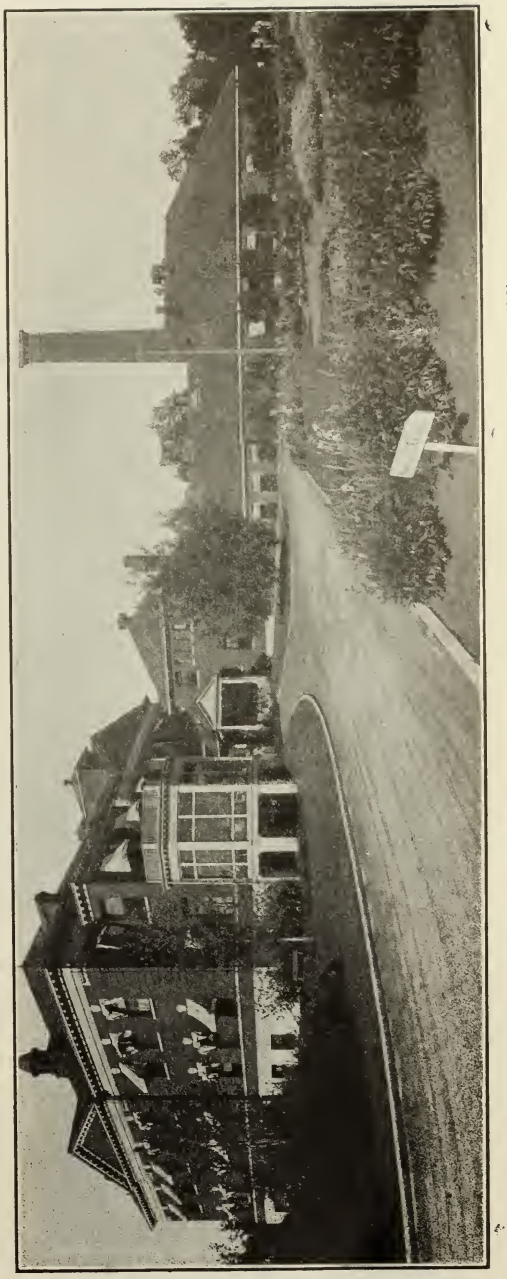
The pattern shop is located in the southeast wing and is equipped with eighteen 4x10-inch W. R. and R. wood lathes, one large lathe, a 36-inch band saw, jig saw, two trimmers and a full equipment of tools for individual and general use in pattern making. Around the walls are eighteen benches with drawers and racks for tools.

The mill room adjoins the pattern shop and is equipped with a universal cut-off and rip circular saw, a 36-inch planer, 12-inch buzz planer, surfacer and a grindstone. In this room all material is prepared for the various shops, only the older pupils being allowed to use the machinery. Power for the two rooms is supplied by a ten horse-power electric motor.

Adjoining the mill room is a fire-proof paint room where all the paints, oil, varnishes, etc., are kept.

The forge and the machine shops, adjoining each other, are located in the central part of the building. The forge shop is equipped with twenty Sturtevant down draft forges, a bar shear for cutting stock, a two hundred pound steam hammer, a post drill, an emery grinder, and the necessary anvils, vises, benches, swing and hand hammers, fullers, swages, punches, chisels, tongs, and similar tools used in ordinary forging. The blast is supplied by a 24-inch blower, and the exhaust drawn by a 60-inch steel fan. Power for these is supplied by a ten horse-power electric motor in the power room.

The machine shop is fully equipped with a great variety of hand and machine tools. There are engine lathes, a planer, a drill press, a shaper, a milling machine, wet grinders, benches and vises for hand work, and drawers for individual tools. The tool room connected with this is fully supplied with all necessary measuring, marking and testing tools, taps and dies, drills, files, etc.



West side view of Hackley Hospital, showing ambulance entrance and service building.

The hospital grounds are spacious and park-like.

The foundry is located in a one story and basement wing in the rear of the forge room and machine shop. It is equipped with a two-ton cupola, a brass furnace, core oven, and moulders' benches and the necessary riddles, rammers, slicks, shovels, trowels, etc. The blast for the cupola is furnished by an 18-inch cupola fan, driven by a five horse-power motor in the power plant.

In the foundry is also located a large 18x18x 33-inch special Revelation Kiln for the firing of pieces of pottery and the experimental work with glazes undertaken in connection with the drawing and applied art work of the third and fifth years.

The power plant in the rear of the machine shop contains the switchboards, motors, blower and exhaust fans for the foundry and the forge shops, engines, heating and ventilating systems and two one hundred and fifty horse-power boilers with automatic stokers. It furnishes hot water to all parts of the main building and for the shower baths and natatorium in the gymnasium.

In the north wing are two large well lighted rooms, one of which is used for storage of lumber and the other is completely equipped for working in sheet metal, leather, pottery and clay modeling. The room contains eighteen metal working benches with the necessary vises, gas connections for burners or blowpipe, and a complete set of individual tools, many of which have been made by the students in the forge and in the machine shops. Around the room are special benches, a hand forge, vats for acid baths and etching various metals, and anvils for heavy work.

Second Floor—To the left of the main entrance on the second floor is the office and reception room of the director, the library, a lecture room and two mechanical drawing rooms, which are each fully equipped with drawing boards, instruments and supplies for carrying on this work. Directly in front of the main entrance are two large rooms, with lavatory and locker rooms attached, one of which is equipped with twenty-five W. R. R. lathes, driven by a ten horse-power motor, and the necessary tools and benches for carrying on elementary wood turning. The other room is fitted up for the work in electricity. This department is equipped with benches, vises, tools, etc., for the laying out and the construction of apparatus, with a complete telephone system, including a switchboard, with apparatus for

measuring resistance, voltage and amperage, and with machines for winding coils. To the right of the main entrance is the exhibit room, a lavatory and locker room, and two wood working rooms. Both of the latter rooms are equipped with Tole's benches and rapid acting vises, with a complete outfit of individual and general tools, cases for the work, closets, blackboards and lecture benches. One of these rooms accommodates twenty-fiye pupils, and is used mostly by seventh grade classes of the ward schools, which come once a week for manual instruction; the other room is equipped for twenty-four pupils, and contains, besides the equipment above mentioned, a band-saw, a grindstone, a three horse-power motor and general tools for advanced work. These rooms are also being gradually equipped with the necessary tools for working in sheet copper and brass, in order that the students may combine wood with light metal working.

Third Floor.—Opposite the main stairway on the third floor is a handsome auditorium, with a seating capacity of over 700. The remainder of the floor is devoted to the Domestic Science and the Domestic Art departments. In the north wing is a recitation room, a bed-room furnished with a beautiful mahogany bedroom suite and a tiled bath and toilet room; a teachers' rest room and office; a millinery room with a seating capacity of twenty-four, and provided with cases, tables, models, etc.; a sewing room with accommodations for twenty-four, equipped with large drafting and small sewing tables, sewing machines, stock closets and project cases; a fitting room and a dressmaking room with complete equipment.

In the south wing are two cooking laboratories, a laundry, a dining-room, a pantry, and a lecture and exhibit room. The larger of the two cooking laboratories is equipped for twenty-four, and the smaller for sixteen pupils. They are both furnished with a view to individual work, each having large gas and coal ranges, charts, individual and general utensils, scales, microscopes, and in fact, every convenience.

Nurses' Home and Annex.

The pantry and dining-room adjoining the small kitchen offer every facility for the serving of meals, etc., and are furnished with all the necessary silver, china, glass and linen.

The store room connects the large kitchen and the laundry, and contains a refrigerator, barrels, crocks, etc., for the preservation of food supplies.

The laundry is equipped with porcelain tubs, a dryer, a flat-iron stove and attachments, iron-

ing tables, etc., and furnishes every opportunity for good work. The lockers for students are arranged along both sides of the hallway and in the lavatory rooms.

Fourth Floor—The fourth floor contains the various studies of the Art Department, rooms for clay modeling and wood carving, as well as a lunch room, where hot cocoa is served during the winter season to those bringing lunches.

HACKLEY ART GALLERY

One of the most attractive buildings in Muskegon, which would do great credit to a city many times larger, is the Hackley Art Gallery. The building is a beautiful creation of classic architecture, located on Webster Avenue next to the Hackley Library. It is simple in design yet very dignified. One of the main features is the imposing entrance hall, with a wide double staircase of marble which leads to the main floor, containing five large exhibition galleries, reference rooms, and business offices. On the ground floor and extending nearly the whole length and breadth of the building is an auditorium capable of holding six or seven hundred people.

A number of very fine paintings have already been acquired among which are examples by artists of international importance, such as Joseph Israels, George Inness, Ranger, Tanner, Blommers, Dwight Tryon and Kever. The permanent collection will be added to from time to time, until Muskegon possesses one of the most important collections of art in this country. Our standard of art is the highest and any picture whether presented for sale or as a gift must reach this standard before it can hope to attain a permanent home in the Hackley Art Gallery.

HACKLEY HOSPITAL

Historical Sketch—The City of Muskegon is distinguished by the fact that in a single generation it developed from a small lumbering town to a flourishing manufacturing city of 25,000 inhabitants, with institutions and advantages not enjoyed by many much larger places. This distinction is due largely to the loyalty, wisdom and generosity of one of its citizens, the late Charles H. Hackley, who, after making a fortune here in lumbering, devoted the last sixteen years of his life to the remaking of the city. He interested himself in the many new business enterprises that came in as lumbering went out; and was closely identified with the industrial development of the city. But he was even more concerned with the evolution of the city's higher life. During these last years of his life he provided the people with a beautiful li-

Operating-Room—Hackley Hospital.

brary, housing 40,000 volumes, endowed with $75,000, a park adorned with statues of great Americans, a manual training school that is one of the most complete of its kind in the country, endowed with $400,000; and finally, this hospital costing $236,804 and endowed with $100,000. Thus while he was still able to see and direct the expenditure of his money he gave to the city of his love no less than $1,400,000.

In his will and in the supplementary will of his wife, Julia E. Hackley, the library, the manual training school, the city poor, the orphanage known as the Home of the Friendless, several of the churches, and Hackley Hospital, were provided for with endowments aggregating $1,460,000, and in addition to this, the public schools of the city were made the residuary legatee of one-eighth of the estate, which will amount to approximately $1,500,000. Thus the city will eventually receive from Mr. Hackley's interest in its welfare not far from $4,500,000. Most of this money is to be held in trust as permanent endowment funds for the institutions founded by Mr. Hackley.

Of these institutions the last to be given was the hospital. He gave it, selected its site, was a member of the board of trustees that arranged the plans and saw it built, and on the day of its dedication and opening was one of the happiest spectators. The hospital stands thus as one of the many monuments of Muskegon's greatest benefactor.

The gift was first announced May 28, 1902. By the terms of the gift the hospital is placed under the guardianship of the First Congregational Church of Muskegon, which chooses its trustees.

Mr. Hackley died February 10, 1905. In his will he provided $200,000 additional endowment for the hospital. Aug. 21, 1905, Mrs. Hackley also died, and in the will with which she supplemented his gifts $300,000 more was added to the hospital's endowment fund.

On the day the hospital was dedicated an additional gift of $5,000 was made by Horatio N. Hovey, of Detroit, to constitute the Elias W. Merrill free bed fund for the benefit of the teachers of the public schools of the City of Muskegon and the employees of the Hackley Public Library.

Woman's Club.

Thus the hospital's total endowment is $605,000.

The Building and Its Appointments—For an institution of its size, with a capacity of sixty beds, Hackley Hospital is believed to be as complete, scientific and modern in its plans and equipment as any yet built.

It is situated in the southeastern part of the city, one block east of Peck street, between Forest and Larch avenues and Clinton and John

streets, the site occupying four city blocks. The grounds, which have a growth of native oaks, have been improved, and are provided with paved walks and drives and trees, shrubbery and flowering plants, making the environment of the hospital ideal in its quietness and beauty.

The hospital is built on the pavilion plan, with a central administration building, facing the north, while connected with this by spacious corridors are the east and west pavilions, devoted to the wards and rooms for patients. To the rear of the administration building is the service building, with kitchen, laundry, power, lighting and heating plant. These four buildings are really one single building, constructed of the best materials and practically fire proof. The extreme length from east to west across the front is 204 feet, while from the front of the building to the south end of the service building is 250 feet.

The exterior walls are of red pressed brick, with foundations and stone trimmings of Bedford limestone. The roof is of red tile, and the windows are of plate glass.

The first floor of the administration building has a large well-lighted lobby in the center, on the walls of which are memorial tablets. Opening off from this lobby are the trustees' room, the superintendent's office, the reception room, the microscopic examination room, the doctor's room and the drug room. To the rear is the emergency operating or ambulance reception room. The second floor of the administration building contains the living rooms for the administrative officers.

The Operating Room—On the third floor is the main operating room, also the septic operating room, surgeon's room, etherizing room, recovery room, nurses' room, *x*-ray and static machine room, sterilizing room, etc. The arrangement of these rooms is very convenient. The main operating room has an overhead northern light, believed to be as nearly perfect as can be secured.

Ursuline Academy.

The first floor of the west pavilion is arranged in rooms for private patients, while the second floor contains the maternity ward and the children's ward.

The first floor of the east pavilion contains the men's medical ward at the north, and the surgical ward at the south end. Between the two are the pantry, a dining room for convalescing patients, an isolation room for a patient critically ill or unmanageable, toilet rooms and the nurses' service room. The second floor of this pavilion is similarly arranged and is designed for the use of women.

A Model Kitchen—The service department is reached from the administration building through the basement corridor. Here are the dining rooms for the help, the refrigerator room, diet kitchen and bakery. The kitchen, which occupies the full width and height of the service building at that point, is admirably lighted and ventilated. It has the best equipment of a modern institution kitchen.

The laundry is fitted with the finest machinery for such a department—washing machine, separator, clothes dryer, mangle, and ironing tables. Back of the laundry is the sterilizing room.

tion for furnishing the principal part of the heat, and fans for ventilation. A large ventilating fan in the basement drives the warm air into every room in the building, while four attic fans draw the impure air away. The system is supplied with automatic heat regulation. The ventilating capacity is sufficient to give each patient fresh air at the rate of thirty cubic feet per minute. The air supply can be regulated according to the number of patients.

The hospital is furnished with everything to make the patients comfortable and for the best medical and surgical work. The operating department is supplied with every agency and im-

Children's Home.

There is an isolation department for contagious diseases, two wards for two patients each, with nurses' rooms, service and toilet rooms. This department is completely separated from the rest of the hospital.

A complete hydrotherapeutic department is located in the basement of the west pavilion. A large automatic electric elevator runs from the basement to the operating room of the administration building.

Heating and Ventilating—The power plant is equipped with two 100 horsepower boilers 14 feet by 66 inches, and two 30 K. W. direct-connected units for furnishing power and operating the electric lights. The heating and ventilating system is a combination of direct radia-

plement for successful surgery. The static machine is said to be the largest built, and the *x*-ray outfit is complete in every way. Mr. Hackley was most generous in providing the trustees with everything to make the hospital complete, his constant aim being to get the best.

NURSES' TRAINING SCHOOL

Four years ago the training school was reorganized. The non-payment system was changed, and the nurses in training are now furnished with the uniform of the school during the first year, but no other remuneration. Through the second year they are paid $10 monthly and in the third year $20 per month. Several other changes which were introduced at that time

have worked well, and to-day the twelve graduates of the Training School bear the title of Registered Nurse. Many of the number are holding positions of responsibility and trust.

The health of the nurses has been excellent, in the past year, with only one serious illness in the school to report—a mild case of typhoid fever. The time lost by all illness in the school through the year averages six days for each nurse.

A thorough and satisfactory course of dietetics is given the nurses at the Hackley Manual Training School through the courtesy of the Board of Education of the city of Muskegon. With this exception the course of training is conducted entirely by classes, lectures, practical demonstrations and bedside clinics at the hospital.

Mercy Hospital.

VISITING NURSE ASSOCIATION

An important feature of the service rendered by Hackley hospital to the people of Muskegon is represented in the Visiting Nurse, who devotes all her time to work outside the hospital. To cooperate with the trustees of the hospital in directing the labors of the visiting nurse there has been organized in the city the Visiting Nurse Association, composed of representative women appointed from various organizations.

The object of the association is to benefit and assist those unable to obtain skilled assistance in time of illness, and to teach proper care of the sick.

The nurse is a regular employee of Hackley hospital and resides at the hospital, where she is on call for service in the homes of all who need her help, except where contagion exists, charitable cases receiving first attention.

The compensation for the services rendered by the visiting nurse depends on the family's or patient's ability to pay. Her services are given freely when needed, a small fee may be paid by those who do not wish to receive charity; and regular nurses' wages are expected from well-to-do families.

The association possesses eleven wheel chairs that are in constant use, and meets expenses for infants' outfits, adult clothing and bedding, household supplies, drugs, sputum cups, and surgical dressings for needy sick.

MERCY HOSPITAL

Mercy Hospital of Muskegon is under the management of the Sisters of Mercy, whose Mother house is at Big Rapids, Mich. This institution is a part of the system of hospitals conducted by the Sisters and includes hospitals at Big Rapids, Manistee, Grand Rapids, Bay City, Cadillac and Grayling.

The location, corner of Grand avenue and Jefferson street, is a very desirable one, the ground being high, the air fresh and breezy and sufficiently distant from the noise and smoke of the downtown district.

The hospital possesses excellent facilities for the work of caring for the sick. The building is well equipped, the wards bright and the private rooms sunny and pleasing. All the apartments are neatly furnished and with special reference to their use and the comfort of the occupants.

The hospital has a capacity of fifty beds, and during the past year cared for seven hundred and one patients, the highest number admitted in one month being sixty-seven.

The discipline is firm and uniform, yet mild. the "Home" principle predominating. The health and comfort of the students receive constant attention.

WOMAN'S CLUB

The Muskegon Woman's Club, organized in 1890, owns a beautiful and convenient club house situated at the corner of two fine residence streets. The building was a gift from a generous club member, Mrs. Francis Smith. The club membership numbers 280, the present president being Mrs. William A. Campbell, whose husband is a practicing physician in Muskegon.

Country Club House.

CHILDREN'S HOME

The Muskegon Children's Home is managed by the Muskegon Humane Union. It is a home for orphaned and friendless children and has a matron and trained nurse who devote their entire time to the work of caring for these children.

URSULINE ACADEMY

Ursuline Academy, Muskegon, Michigan, is a boarding and day school for girls and young ladies. The curriculum embraces primary, grammar, academic and commercial departments. The aim of the Ursuline Order is the instruction of young girls in knowledge and refinement.

COUNTRY CLUB

The Muskegon Country Club grounds consist of nearly 200 acres on the shore of Muskegon Lake. Easily reached by the street car lines. Here is one of the most extensive and naturally endowed golf links in the middle west. Bring along your golf sticks and chase the "pill" over such a course as you have never golfed before. Excellent tennis courts are also on the grounds.

The privileges of the Muskegon Country Club are extended to the members and guests of the Michigan State Medical Society.

The same charges for refreshments, etc., at the Country Club House as are regularly charged members of the club, will be made.

SOCIETY NEWS

ALPENA COUNTY MEDICAL SOCIETY

No meeting of the society has been more valuable than that of April 15. Every one of the fifteen doctors present took an active part in the discussion. In fact, the general discussion of topics is the thing that distinguishes the Alpena Society as one of the best societies. Kalamazoo and Grand Rapids have fine meetings, but the papers are mostly read by outside experts. We are justly proud of the activities of the individual members and we cordially invite comparisons in this regard with any society in the state. The subject of particular discussion was contract practice. That Alpena physicians do not propose to be imposed upon in this matter is of interest to every fair minded man. By a reasonable return for services rendered only can the doctor keep up the quality of his work.

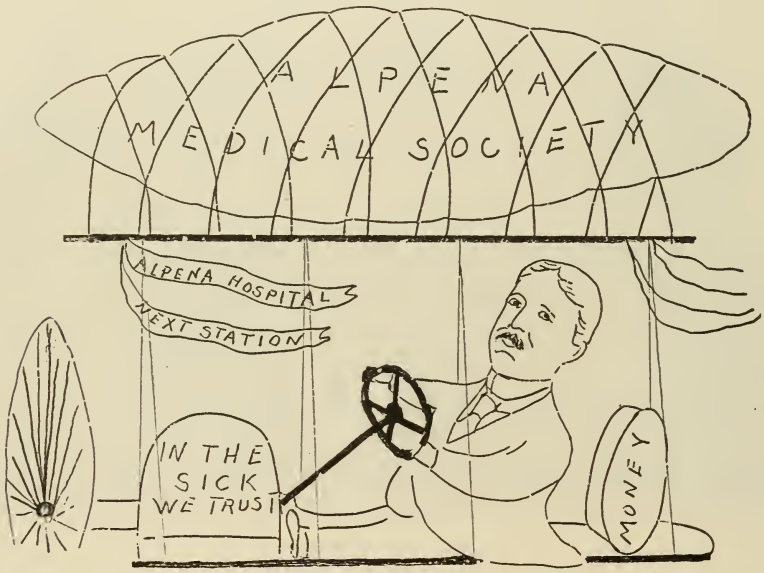
The tribute paid to the memory of Dr. Byron Deadman by Dr. J. D. Dunlop was greatly appreciated by all the members present. Dr. John Deaaman of the Soo, being present as the guest of the society, made a feeling response to the kind words of praise bestowed on his brother. Following these remarks the society immediately adjourned.

The Alpena County Medical Society entertained the clergy of the city, and a few friends at a banquet, on the evening of May 9. The object of the meeting and banquet, was the improvement of the relations existing between the professional men of Alpena. The general theme of the toasts was preventive medicine. The following toasts were responded to:

Dr. S. T. Bell, chairman; Rev. Dean Hastings, invocation; Dr. E. E. McKnight, toastmaster; Dr. C. M. Williams, "Our Medical Society"; Rev. John Dystant, Ph.D., "Preventable Accidents"; Dr. S. T. Bell, "Modern Prophylaxis"; Supt. E. L. Parmenter, "Health Education"; Dr. A. E. Bonnerville, "Modern Medicine"; James Collings, "Publicity and Prevention"; Dr. J. D. Dunlop, "Anti-Tuberculosis Societies"; Rev. Dean Flannery, "Remarks."

A most enjoyable time was experienced. The clergy promising to return the compliment at some future time.

C. M. Williams, Secretary.



Dr. Bell takes the wheel of the Alpena County Medical Society Airship

CALHOUN COUNTY BAR ASSOCIATION

The Calhoun County Bar Association met in the Industrial Association Rooms, Battle Creek, May 9 with many of the members of the Calhoun County Medical Society, all of whom were invited as guests. The subject of the evening was of special interest to physicians:

Medical Jurisprudence Relating to Degeneracy by Mr. Wm. E. Ware, who laid particular stress upon the fact that degeneracy and insanity (which by the way he classes under the general term degeneracy) are relative conditions. It is difficult to draw a line and say this person should not be made to suffer the penalty of the law because of degeneracy and this one should suffer. In all times courts have endeavored to protect the degenerate (and insane). In savagery it was often the custom to put to death the weak and degenerate thus tending to build up a more healthy and possibly more warlike race. Mr. Ware questioned whether it might not be wise to now hold many of the degenerates responsible for their actions as a means of protection to the rest of the public. He cited instances where degenerates (or insane) have paid the penalty of the law for their crimes. (It is not necessary to cite instances where they have escaped this penalty.) He also cited many instances of geniuses who have been degenerates in mind or body. He spoke about the matter of heredity and quoted at length from standard authors, some of whom claim that as a rule degenerate traits are more apt to be inherited by the first two or three children than by subsequent ones. The inference was drawn that the decreased birth rate which is becoming more prevalent with the advance of wisdom of the human family would therefore tend to produce a weaker race.

The Duties of Counsel in Cases Involving Questions of Medical Jurisprudence was discussed by Mr. James M. Powers. Mr. Powers paid especial attention to the relation of Counsel to the Medical Expert Witness. The expert witness is called to elucidate matters of doubt which he is especially fitted to elucidate for the judge and jury. If there is no matter of doubt presented to the jury the expert witness is not needed, and if he cannot elucidate a question of doubt he might as well not be called. Mr. Powers said that in the vast majority of cases the reason medical expert witnesses are more or less unsatisfactory on the

Lake Michigan Park Beach.

witness stand is not because of lack of ability, but is because the attorney calling the expert has not prepared himself sufficiently upon the matters he wished elucidated by the expert. The attorney should furnish the expert a sufficient time in advance, with a list of the points he will be expected to cover, and an outline of what is desired to be shown. He should also caution his expert upon the particular questions which might be asked, either in direct or cross examination. This is to allow the expert to prepare himself. He should be given plenty of time for this preparation and should not be expected to answer any questions from his general knowledge, or in an offhand manner. It is especially desirable therefore that experts be cautioned by their Counsel and prepared for the cross examination. The expert should know enough law to understand his rights and what is required from him.

In the discussion Judge Wisnor of Marshall stated that he has always looked with approval on the plan in vogue in France in dealing with questions of expert testimony whether medical, mechanical, or otherwise. In France whenever during a trial questions requiring expert interpretation arise, these questions are taken from the jury and referred to a referee board of experts, whose findings shall be given to the jury, as facts. The papers were also discussed by

Old People's Home—Muskegon's latest benefaction.

Instances were cited in which medical experts of national reputation have failed on the witness stand because they had not given sufficient preparation to obscure items about which counsel should have cautioned them. The expert is called to explain away doubt and his direct testimony has that end in view. It is not the duty of the attorney for defense to explain away doubt, but simply to raise a reasonable doubt in the minds of the jury. If he can do this by making the expert look ridiculous, by making him admit things which upon careful thought he would not admit, or in any other way, he has accomplished his purpose. Attorneys C. E. Lewis and A. N. Ford and by Drs. J. C. Brown, S. R. Eaton and W. H. Haughey.

DETROIT ACADEMY OF MEDICINE

At a meeting of the Detroit Academy of Medicine, held April 23, the following resolution was unanimously passed and ordered sent to THE JOURNAL of the Michigan State Medical Society, the *Journal of the American Medical Association* and the bulletin of our county society:

Resolved, That Article VI, Section 4, of the Principles of Ethics, namely, "It is deroga-

tory to professional character for physicians to pay, or offer to pay, commissions to any person whomsoever, who may recommend to them patients requiring general or special treatment or surgical operation. It is equally derogatory to professional character for physicians to solicit or to receive such commissions," be approved by the Detroit Academy of Medicine, and that any member convicted of this offense before the board of directors be expelled from membership, under Article V of the By-Laws.

RAY CONNOR, Secretary.

EATON COUNTY MEDICAL SOCIETY

At the meeting of the Eaton County Medical Society, April 25, the society voted an amendment to allow of incorporation. All our members are paid for the year 1912, and two new members have applications under consideration. The society is the largest for years.

Dr. W. E. Newark gave a paper on "Obstructions of the Upper Respiratory Tract." The paper was able and well discussed.

The next meeting will be an adjourned meeting with the Eaton Rapids Medical Club.

A. H. BURLESON, Secretary.

Scene on Muskegon Lake.

DETROIT OTOLARYNGOLOGICAL SOCIETY

The Detroit Otolaryngological Society met Tuesday, April 17, 1912, in the Wayne County Medical Building.

Dr. Guy H. McFall read a paper on Laryngeal Tuberculosis based on his observations of 368 cases. He illustrated some of the types by charts and went thoroughly into the local treatment with a certain formalin solution which has given exceedingly gratifying results.

Dr. Mercer reported two cases of nasal angioma and Dr. McFall a case of acute edema of the larynx resulting in death in a patient seen in consultation who originally suffered from a streptococcic peritonsillar abscess.

Dinner preceded the meeting. E. A.

GENESEE COUNTY MEDICAL SOCIETY

The regular quarterly meeting of the Genesee County Medical Society was held April 30 at 3 p. m. in the council chamber at the city hall. Thirty members were present.

Dr. C. G. Jennings of Detroit gave a very instructive talk on "Cardiac Arhythmia," illustrated by charts. Dr. Jennings was elected an honorary member of the society.

The technic of prostatectomy with demonstration of specimen was given by Dr. Manwaring.

Special meeting of the Genesee County Medical Society was called to order May 8th by Vice-President M. S. Knapp at 9 p. m. to consider the Owen Bill.

A résumé of the Owen Bill was read by the secretary. The following resolutions as prepared by Dr. C. B. Burr were read and adopted.

WHEREAS, The Senate of the United States has now under consideration Senate Bill No. 1, Calendar No. 651, reported favorably from the Committee on Public Health and National Quarantine; and

WHEREAS, The establishment of a Bureau of Public Health such as that for which the Bill makes provisions, has long been recognized by physicians as of every great public importance: and

WHEREAS, The Bill under consideration is clear and commendable and its provisions such as to meet the end in view; therefore be it

Resolved, That the Genesee County Medical Society at a meeting held on the eighth day of May, 1912, places upon record its endorsements of the Bill and directs that the officers of the Society communicate this action at once to the Senators and Congressmen from Michigan.

A committee consisting of Drs. Randall, Manwaring and Clark was appointed to visit the Literary and Commercial Clubs and obtain from them resolutions in favor of the passage of the Owen Bill.

A letter was read from the president of the board of hospital managers requesting the society to appint a committee of three or five to act in an advisory capacity to the Board of Hospital Managers.

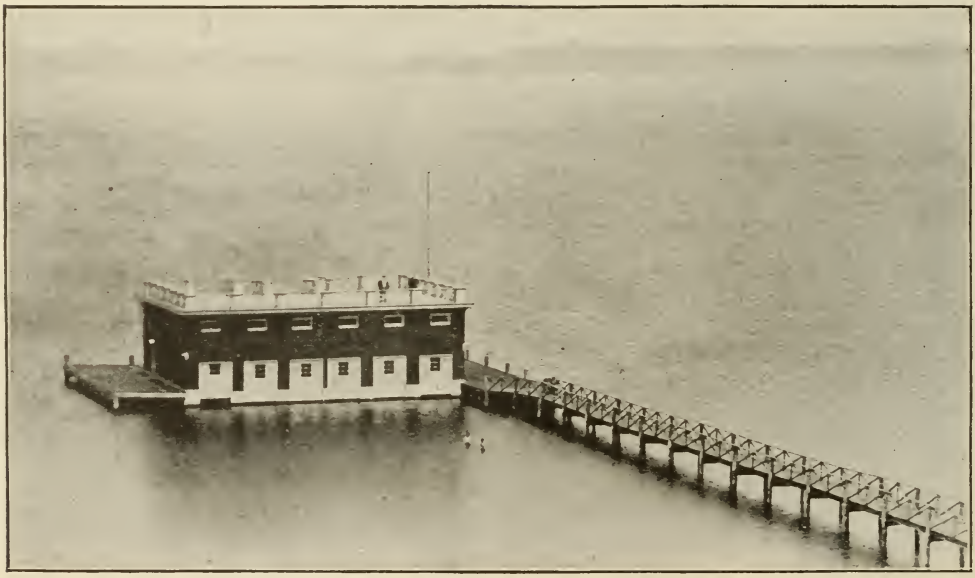
A motion was carried that a committee of three members be appointed annually to act as an advisory committee to the hospital board. That this committee now consist of Drs. Conover, Randall and M. S. Knapp.

Drs. H. D. Knapp, F. L. Tupper and E. D. Rice were appointed as a committee to take steps to obtain free antitoxin in cases where people are unable to purchase antitoxin promptly.

May 14 President Bates received a telegram from Senator William Alden Smith stating that in accordance with the request he would take great pleasure in presenting to the Senate the resolutions adopted by Genesee County Medical Society favoring the passage of the Owen Bill.

May 14 the committee on the Owen Bill appeared before the Flint Board of Commerce and received their endorsement which the Board of Commerce immediately telegraphed to the United States senators and congressmen.

C. P. CLARK, Secretary.



Boat House—Country Club.

GRAND TRAVERSE-LEELANAW COUNTY MEDICAL SOCIETY

The regular meeting of the Grand Traverse-Leelanaw County Medical Society was held on the evening of May 7 in the offices of Dr. E. R.

Minor. Seven members were present. Minutes of last meeting were read and approved.

The committee on public health gave a report of the work accomplished so far this year.

Dr. W. D. Mueller was elected delegate to the state meeting and Dr. G. W. Fralick was elected alternate.

Dr. G. M. Johnson read a paper on Vaccine Therapy followed by a general discussion.

Dr. F. Holdsworth read a report of a case of Cellulitis of the Orbital Region. It was decided to hold a special meeting May 21, which time all back papers will be presented.

R. E. Wells, Secretary.

Lake Harbor Golf Links.

HOUGHTON COUNTY MEDICAL SOCIETY

DR. LAWBAUGH BANQUETED

The members of the Houghton County Medical Society assembled at the Miscowaubic Club, Calumet, Michigan, Wednesday evening, April 24, 1912, at a banquet given in honor of Dr. Albert I. Lawbaugh, of Calumet, who for the past forty years has been engaged in the active practice of his profession in Houghton County. Dr. Lawbaugh has long been regarded both by laymen and his professional colleagues, as the leading physician of the copper country.

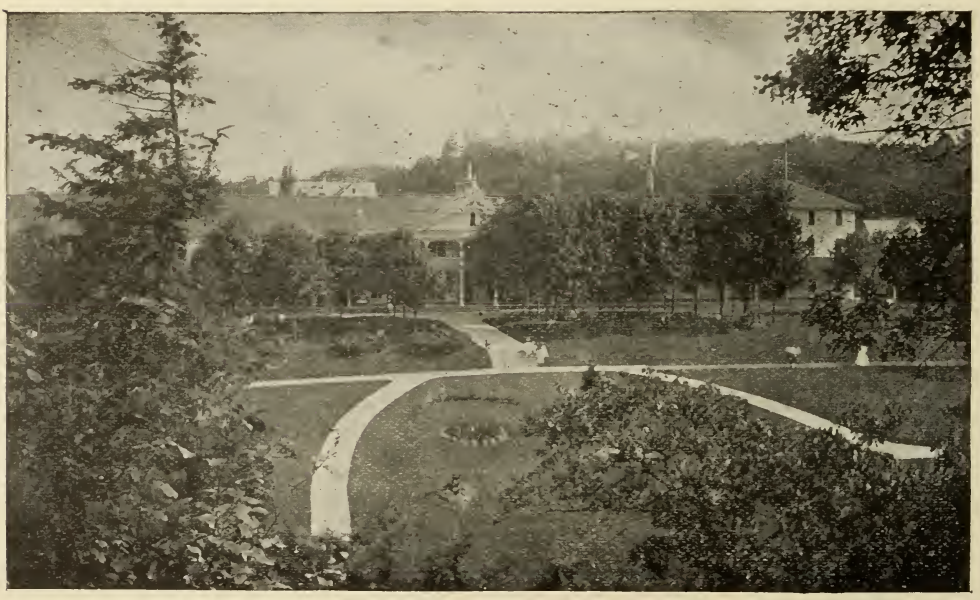
After a splendid banquet had been served, Dr. W. H. Dodge, of Hancock, who acted as toastmaster, opened the program of the evening by calling on Dr. P. D. Bourland, of Lake Linden, for a response to the toast "The Older Man Up-to-Date." Dr. Bourland paid a high tribute to the honored guest of the evening, who, having commenced his professional life at the beginning of what has been the period of greatest growth and advancement in the history of medicine, has still found time during a busy and arduous life to keep abreast of the times in every department of his profession. "And so we have him here with us to-night, older in years than any of us—still a leader. His career should be an inspiration to us."

Dr. A. F. Fischer, of Hubbell, responded to the toast "The Master of Opportunity." "I have always believed," said the doctor, "that all of us should take a certain amount of time to take up the sentiment of hero worship. I do not believe that hero worship should always be extended to the past ages, but we should appreciate the heroes who are here in our midst —those who have blazed the way in times past for us to follow, and who are still striving for higher standards. I think the great secret of our brother's success has been the mastership of his opportunities."

Dr. W. K. West, of Tri-Mountain Hospital, spoke of "Dr. Lawbaugh as a Consultant." He recounted many experiences extending over a period of twenty-three years, showing the respect and confidence in which Dr. Lawbaugh was held by his patients: "If patients were sick and likely to die, they wanted Dr. Law-

baugh; if they were not very sick, or at least I did not think they were very sick, they wanted him just the same. Dr. Lawbaugh had a broad knowledge of medicine and surgery, unusual skill in diagnosis, and excellent judgment. It seemed to me the doctor always handled these consultations with a great deal of tact, and the patient always felt better for his coming, and I felt that not only was the patient benefited, but I was benefited and had learned something. I know of no better compliment to pay our honored guest than to say that while he has had the esteem and confidence of the people to an unusual extent, he has always possessed the confidence and esteem of our best practitioners. That is one of the principal reasons why he has had such an extensive practice and always been in such demand.

Dr. C. H. Rodi, of Calumet, who came to Calumet in July, 1886, as assistant to Dr. Lawbaugh, and who has for the past twenty-five years been intimately associated with him in his work, in "Reminiscences of a Pleasant Association" related many amusing incidents that had occurred during their years of association. One of these incidents illustrating the doctor's insistence on punctuality was as follows: "I remember one of my first experiences in this regard: I was coming down to the Osceola office one cold winter day—I always was there one or two minutes before 1 o'clock. I noticed a couple of fellows without any coats or hats trying to keep warm before a small fire they had started at the roots of a stump. As I came into the office the doctor was busy. "What do those fellows out there near the stump want?" I asked. "I am teaching them the office hours," replied the doctor. "I will teach them to come around before 1 o'clock." One of the doctor's greatest failings was punctuality. It used to be said that the movements of a watch could be set by the movements of the doctor. The secret of the doctor's success is a thorough preparation by study, equipped with a very extensive and complete library, and keeping up and abreast of the times by constant study; and devotion to the highest ideals in the practice of medicine has enabled him to improve the opportunities he has had.



Lake Harbor Hotel.

Dr. E. T. Abrams, of Dollar Bay, who early in his professional career was a student in the office of Dr. Lawbaugh, spoke on the topic, "Dr. Lawbaugh as a Preceptor."

Mr. Toastmaster and Gentlemen: When we come down to the real philosophy of the law of being, God's plans are long plans. His vine is a vine of power and influence, and His sheaves are sheaves that wave not over short

furrows, but rather over vast centuries of time. Take, for instance, our own great country with its immense wealth. It is so great that the very mention of it staggers the imagination. But to whom does it really belong? Most assuredly not to the men and women of to-day, but rather to the frolicking children in our streets and the babes in the cradles of our land. These are they that never have yet sowed a seed, or turned a furrow, and yet they are to reap this mighty harvest. These babes will ride in cars and boats they never built; they will have the benefit of the great engines they never invented; they will reside in cities they never founded; in homes they never built. The wonderful literature of the past will be theirs, though they never wrote a word of it; and, most of all, they will enjoy liberties they never won.

Ptolemy thought the great blue sky above us a dome, and that the stars were but holes in that dome where God placed burning candles, and that the moon itself was but one of those holes, only larger, opening into the palace or mighty banquet hall of the gods, which was always light. It took generations of astronomers to overthrow his theory and make way for the coming of Sir Isaac Newton, and when the world heaped honors upon him, it quite forgot the generations of unseen workers of the past that made him possible. And so it is in all human undertakings; all professions and all achievements.

The sum total of medical knowledge to-day represents the accumulative efforts of all the past, even from the priestly incantation of Egypt to Pasteur and Lord Lister. But while we owe much to the remote past, it is really during the present quarter of a century that our knowledge has come to us by leaps and bounds. It has been the good fortune of many of us here to-night to have been the babes and frolicking children, professionally considered, at the beginning of that period, and hence we have gathered sometimes where we have not sown, and harvested sometimes where we have not strewn.

Lake Harbor.

At the beginning of that period, the greatest influential factor in our profession as a whole, was the Preceptor, for it was by close association with him that the idea of a newer and grander era in medicine was impressed upon us. It was he who first caught the enthusiasm of the opening day and impressed his individuality and personality upon us.

It was my good fortune, at the period of which I speak, to become the student in the office of Dr. A. I. Lawbaugh, whom we all have loved these many years, and to whom to-night

we pay especial honor. I had already spent some time in the office of another practitioner, and therefore had some idea of the condition of things, but was by no means prepared for the strenuous work, the push, and enthusiastic progressiveness, that my new preceptor not only possessed, but infused into all his work, until it became contagious and infected all of those about him, or with whom he came in contact.

It was in the early days of antiseptics, and during the passing years, as they have gone from sight, the apparent ease with which my preceptor adjusted himself to absolutely new conditions, still remains a marvel in my mind. Far removed from large centers of medical thought and experimentation, he nevertheless, a humble country practitioner, followed so closely in the footsteps of the advance guard, that scarcely had they begun to do a new operation in New York or Boston, than he was so devoutly studying its details with such intensity and concentration of thought, that he soon seemed to have mastered its technic; and so, in the homes of patients, without trained nurse or trained assistants, with no hospital facilities, he was duplicating the work of the masters with exceedingly gratifying results. Of course these were the days of antiseptic surgery. His motto was *work*, and by "work" I mean in the larger and broader sense. One of the things which very early impressed me was his conservation of time. His whole life was method, and method so as to waste the least amount of time; consequently, the amount of work he accomplished was prodigious.

At that time his custom was to give me set readings followed after the day's work by a quiz, that I wish to state right here put most of my college quiz masters in the shade. After he had gone over a subject fully, the next move was unexpectedly to bring me to the bedside and there give me the actual demonstration of what I had been reading about. His complimentary remarks as to my ability to remember or translate my knowledge to potential ability in a given case, were not such that would lead any young man to early assume that Divine Providence had especially equipped him to set the world aright, either medical or otherwise. "Better study, learn something, and know it, if you expect to amount to anything," was most often heard. Not said, however, in a spirit of austere severity, but with the ring of honest conviction.

Beach—Lake Harbor.

Dr. Lawbaugh performed for me, as his student, a great service; he taught me how to study and how to think. This is truly the greatest service a great teacher can perform. Had he elected to teach, rather than lead a whole section of the medical profession to a

higher level, he would have been numbered among our great teachers.

Dr. Lawbaugh taught me to idealize my profession. As my preceptor he took my hand and led me up, up, out of the dust, cobwebs and mustiness of commercialism, into the clear sunlight of industry, devotion and service. Mere living is not life. And so, gentlemen, if, as I view my own professional building at the close of a quarter of a century, I see it incomplete, unfinished, marred, and by no means a thing of beauty, yet I know and can assure you that it was begun upon bed-rock by a preceptor who insisted that into its foundation should go nothing of dross or baser methods, but only those things which if rightly taken and rightly used build for worthiness, beauty, stability and endurance.

And so to-night, Dr. Lawbaugh, out of a heart full of thankfulness and grateful remembrances, I wish to add this word of appreciation to that of your many friends here assembled: May the hand of Time sit lightly upon you, so that your noble example of professional uprightness and helpfulness may for years to come be an incentive and an inspiration to the Medical Profession of this section.

Dr. A. B. Simonson, of Calumet, in responding to the toast "Dr. Lawbaugh's Relationship to the Young Practitioners" said: With your permission I wish to refer for one moment to some of the pioneers in the practice of medicine in this district, as a sort of a historical prelude to what I wish to say later. I have had the honor, as well as pleasure, of meeting and knowing some of the older physicians of the Copper Country, and I wish to call your attention to the names of such men as Dr. Osborn, who began his medical career as physician for the Toltec Mining Co. in 1848; later he was physician for the National Mining Co., and still later, and for a number of years associate physician for the Calumet & Hecla Mining Co.

Dr. Flanner, who came to the Copper Country as physician for the Minnesota Mine in Ontonagon County. After a few years of successful practice he returned to his native state—Missouri; but he was again called back to the Copper Country, and became physician for the Quincy Mining Co.

Dr. F. E. Fletcher began the practice of medicine in Detroit in partnership with the late Dr. H. O. Walker, which he gave up in a few years and came to the Copper Country as physician for the Allouez Mining Co.; later, and for a number of years, he was associate physician for the Calumet & Hecla Mining Co. at Lake Linden.

Dr. E. H. Pomeroy began the practice of medicine in Indiana but soon after came to the Copper Country as physician for the Osceola Mining Co.; later and for a number of years he was associate physician for the Calumet & Hecla Mining Co.

Dr. Plews was physician for the Quincy Mining Co.

Dr. Downer began the practice of medicine in Ontonagon county; later became physician for the Quincy Mining Co.

Dr. Solis began as an assistant to Dr. Shepherd at the Quincy Mining Co.; later was physician for the Minong Mining Co. at Isle Royale, and still later physician for the Allouez Mining Co.

To-day, about the only man living and still in active practice, is our guest for the evening, Dr. Lawbaugh, who connects the present generation of practitioners with this grand galaxy that I have just mentioned. They were broad, liberal-minded, generous-hearted men; with all their virtues and a few faults, they were successful men. Beginning as a rule with a small foundation, they built a superstructure that you may all envy. Not only were they successful men, but they were invariably kind to the young men, ever ready and willing to help them over the hard places, and to meet them in consultation, or assist them at their work. You were always the better for it, and you went away feeling assured that you would not lose your patient.

To my mind, Dr. Lawbaugh possesses all these qualifications and is a representative of all the good principles, the high ideals and all the excellent traits that were possessed by these older men, particularly in his relationship and in his dealings with the young man, and that is why your attention was called to these older men—to impress upon your minds more forcibly that we have to-day a true representative of that period; to be sure, he has surpassed them all in his attainments, but the consideration shown the young man by his advice, by his kindly criticism, his thoughtfulness and his ever readiness to help and assist the young man; this, taken with his upright character, his example as a man, as a physician, a man to be trusted in the home, a man to be trusted with your patient. We have always had and felt the utmost confidence in him; if there is any one

motto or advice I would suggest he could give the young practitioner to-night it would be this:

"Be men, high-minded men,
With powers as far above dull brutes imbued
In forests, brake or den,
As beasts excel cold rocks or brambles rude."

Dr. Joseph E. Scallon, of Hancock, in responding to the toast "Dr. Lawbaugh's Influence upon Medicine and Surgery in Houghton County," said: I wish to congratulate the men of the younger generation, and congratulate ourselves, upon this meeting to-night. It is so different from what we could have had when Dr. Lawbaugh and I were young practitioners, either in Houghton or Keweenaw Counties. The medical profession was represented by few members; we were far apart, and it was difficult for us to get together. The representatives of our profession in Houghton County have always had a very high standard of excellence and I have always been proud to be admitted to membership among you. Dr. Lawbaugh has always been at the front in the advancement of medical science in this county and we all had to jump into step when the doctor came to Houghton County. He set the pace and has kept us humping ever since to keep up with him; but by the time we got up to where we thought Dr. Lawbaugh was, he was still a step ahead of us. The crowning glory of his life as a medical man has been the enthusiasm and love which he has for his profession. He has always done his work and done it well; perhaps that is the highest compliment we can pay a colleague—doing a man's work and always doing it well.

Dr. Lawbaugh's response to the toasts of his colleagues was as follows:

Forty Years in Practice

In the past forty years great progress has been made in all kinds of work, but none greater or of more benefit to mankind than in our own profession of saving human lives and the prevention of disease. There is a great contrast between the present practice of medicine and surgery and when I entered the practice in Keweenaw County. Then even in large cities, we had few instruments of precision; only the stethoscope, fever thermometer and the microscope, all rather crude and by many considered toys rather than of practical value. The hypodermic syringe was practically unknown. It is true the diagnosis of disease was often very exact, but it was made by master minds on clinical evidence alone. In obstetrics, my teacher was the celebrated Prof. Skene, but the methods of those days were somewhat crude compared to the present day. In my first cases of obstetrics, the nurse was some kind neighbor usually, and for my use, a tin basin which was used for many and various purposes, soap of family use, a towel not particularly sterile, and a saucer of lard were provided. It was not thought necessary to wash hands before the examination, because it was put into a place already contaminated and it was better to wash afterward, and not before. When I asked for some clean material to place under the patient, I was handed a bundle of rags which the woman had saved up during the period of pregnancy for the present occasion.

The only surgical operations were amputations, ligatures and sutures entirely of silk, and for drainage the ends of the ligatures were left long and passed out of one corner of the wound.

People were surprised when I advised the removal of tumors, and other surgical operations, as this was entirely unknown. In my first surgical operations I had very little assistance from professional men as my neighbors were few and some distance away. My anesthetist was a mine clerk and my assistant a neighbor or some person willing to help. In this way, after having performed several operations with a successful outcome, there was less trouble in persuading our patients to submit to operation.

Much objection was made at first to the use of the obstetric forceps, and I knew several physicians who did not possess one. The happy use of this necessary instrument was soon established.

As time went on, I found it was necessary, in order to do the best work for my patients, to take post-graduate work, but I was practically alone from this field.

We had no hospitals in those days, except a few for injured men. We had what one of my neighbors denominated kitchen operations; that is, we generally took the kitchen, or some other

room, cleaned it thoroughly, using the best antiseptic precautions we could under the circumstances. We had no trained nurses, the nursing being done by some friend of the patient under instructions of the physician. In medicine, but few drugs were in use, salts, calomel, some preparations of iron and opium.

The success I have had was not due entirely to my own efforts, but also due to the faithful cooperation of colleagues, who by their assistance made success possible.

Now, gentlemen, before closing I wish to thank you very much for this testimonial of esteem. What you, my dear friends here present, have done for me to-night, surpasses anything that I at any time in my life ever dreamed of. It is the mile-stone of my life, compared with which all other events sink into insignificance.

You certainly have passed far beyond any ambition that I ever had. Friendship is one of the things that adorns and sweetens human life the most. It is pictured by orators, in legends, and in Holy Writ. It begins with our youth, it cheers our manhood, and in our declining years illumines our days as with the glories of the setting sun.

This event shows me that my association with you in times past has been one of genuine friendship. As I look back along the vista of years, I can say with feelings of deep sincerity, that I am not only pleased but deeply gratified that my association with you has been such as to honor me by this event, and the kindness of heart that inspired it.

When my work is finished, I shall be content to look back to your kindness to-night, and shall feel that I, perhaps, have not lived in vain. For this token of friendly love I wish to express my heartfelt thanks, and that it has been in your hearts and minds to do it now when I am still among you, so well expressing the thought of the late Professor Eastman:

"Bring flowers while the eyes still see;
Speak words of cheer while the ears still hear."

INGHAM COUNTY MEDICAL SOCIETY

During the month of April, the Ingham County Medical Society has held three special meetings at Lansing. On April 2 Dr. L. C. Towne discussed "Prostatitis and Vesiculitis." The paper was thoroughly discussed by all members present.

On April 16, Q. O. Gilbert gave a paper on "Rabies." He demonstrated Negri bodies from the brain of a rabid dog stained by neutral fuchsin and methylene-blue and discussed their diagnostic significance. The importance of not immediately killing dogs suspected of having rabies was emphasized, with the advice that such dogs be tied up, awaiting the development of further symptoms. The various methods of giving antirabic treatment were explained, emphasizing the fact that the immunity thus produced would protect against from only two to three times the minimum fatal dose of virus. The importance of local treatment for the purpose of getting rid of as much of the infecting virus as possible was thus shown, for which he advised the use of formalin, which appears to have a special selective action for rabic virus, for which reason it is relatively more valuable than nitric acid or other antiseptics. Carbolic acid should not be used, as experiments have shown that this substance has relatively very little antirabic action, failing to kill the virus in concentration even as high as 2 per cent. strength under twenty-four to thirty-six hours.

On April 30, two papers were given, one by Dr. F. A. Jones on "Diphtheria and Its Complications," and the other by Dr. M. L. Cushman on "Recent Advances in Brain Surgery." Dr. F. A. Jones emphasized the value of accurate diagnosis in all cases of suspected diphtheria, and the use of laboratory methods for this purpose, as well as the control of quarantine. He reported the results of over one hundred and fifty cases that had come under his observation in his official capacity as health officer during the last four years. Among these there had been eight deaths. He dwelt upon the cause of death in these cases and pointed out that the fatal cases had either not been treated with antitoxin or the antitoxin had not been administered until the patients were in a dying condition. He expressed the opinion that practically all diphtheria patients could be saved by early use of antitoxin and advised the use of large doses.

Dr. M. L. Cushman discussed various surgical diseases of the brain and reported several very interesting cases. He demonstrated the pathological conditions of two brains removed postmortem, giving the anti-mortem history of each case, the one being a case of brain syphilis with extensive gummatous involvement and the other one of secondary sarcoma.

M. L. Holm, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

Meeting of April 9

Abstract of paper given by Dr. E. J. Bernstein on

Reflex Nasal Neuroses

A reflex neurosis is simply a normal reflex run riot, being unduly called forth by some pathologic lesion somewhere. The nose, by reason of its intimate connection with sympathetic nervous system through its intricate nerve supply and the great number of structures liable to injury by disease, is a veritable mine of disaster for the individual. Most of the ills afflicting it are announced by symptoms, which may be called forth by a number of maladies. Asthma, asthenopia (painful use of the eyes), cough, headaches, nose-bleed, tinnitus aurium, deafness, vasomotor rhinitis, hoarseness and aphonia, diminution of physic energy and enuresis were among the cases treated and cured by proper treatment of nasal disturbances. All of these are but symptoms of reflex neuroses, and may be called forth by disease elsewhere.

The intimate relation of the generative organs and nasal disorders has claimed the attention of clinicians for many years. Vicarious menstruation, in phthisis and pregnancy is a common observance.

Undue indulgence and masturbation are well recognized causes of nasal obstruction and nasal reflex neuroses.

The relation of the sense of smell and erithism is a recognized fact and a remaining atavistic trait from the lower animal life from which man sprung.

Abstract of paper given by Dr. Blanch Epler on subject,

Some of the Facts in the Infant Feeding Problem

The solution of the infant feeding problem should be, primarily, applicable to the undeveloped infant.

In the valuable work being carried on, the series of cases of the different pediatricians present under dissimilar conditions. Finkelstein working with boiled milk, engrossed in metabolism, not meeting with the violently toxic cases of our American cities, ignores the bacterial factor in disturbed digestion, and treats his cases collectively.

The obstetrician has a distinct pediatricial responsibility, for the early disturbance of the normal balance in the infant can be largely avoided by interested, deliberate, intelligent care of the infant.

Gastric Digestion: All functions are present as in the adult, in lessened degree. Rennen and pepsin are present in health and disease in excess of hydrochloric acid; Lipase is present in cells of the mucous membrane as well as in gastric contents, and digests 12 per cent. to 40 per cent. of fats ingested.

Lime water stimulates the secretion of HCl, and though neutralizing the free HCl, may prove detrimental to the digestion. The administration of sodium citrate destroys HCl and minimizes the combined acids.

Examination of stomach contents is valuable to some cases, but the contents, because of casein affinity for HCl, should not be filtered. Hyperacidity and Hypo-acidity are of differential diagnostic value.

Duodenal Disturbance: The duodenum is the "battle field" in disturbed digestion.

Hess' duodenal tube is most practical, and examination of secretions and contents will be as valuable, in the event of uniform methods, as the study of the urine in kidney disturbances.

Lipase in mucous membrane should be capable of reverse action on the fats within the cells. Neutral fat is found in the thoracic duct, though absorbed as a split fat. Fat has twice the food value of proteid and sugar. Both furnish 90 per cent. of body requirements, and are interchangeable in value.

Fat is a common disturbing factor in digestion—the degree, kind and cause of disturbance largely ascertained by examination of the stools, both gross and microscopical.

Finkelstein's and Myers' work on sugar as a factor in digestion shows strong findings. Lactose tolerance is low in a healthy child, and markedly low in intestinal disturbances; it is slowly absorbed, allowing growth of excessive fermentative bacteria.

Lactose and saccharose, absorbed as such, remain the same and are excreted the same. Maltose changes in the body cells to monosaccharides; it is most easily absorbed. Tolerance is greater than for lactose and saccharose, and it produces of all sugars the greatest in weight.

There are specific diarrheas due to such organisms as the Shiga and Flexner bacillus, streptococcus, staphylococcus, *Proteus vulgaris*, colon, etc. The infections are frequently gen-

eral Nutritional disturbances likewise are general rather than local. Excellent results from specific serum in case of Shiga and Flexner infections are obtained.

The type of bacterial flora in the intestine is a definite factor in digestion, and disturbed digestion may be controlled by the kind of food administered.

Normal flora of the young nursing infant is fermentative, and overfeeding is the most marked factor in functional disturbances.

Cellular activity is shown to be most active with ingestion of water. Some cause other than the bacterial contents of milk is the reason for the decrease of mortality in infants being at a standstill. New York has an annual death-rate of 16,000.

The close study of the infant is imperative for its welfare. It has a right to as scientific methods as are used in the adult.

C. E. Boys, Secretary.

INVITATION FROM THE MUSKEGON-OCEANA COUNTY MEDICAL SOCIETY

Come to Muskegon for the 47th annual meeting of the Michigan State Medical Society. Come for the meeting alone if that is all the time you can spare. The meeting will be well worth it; but if you can take a little vacation come to Muskegon not for the meeting alone, but also for an outing, a good rest or pleasant recreation. Come a week before the meeting and stay until a week after the meeting. Bring your family with you.

We have boating, fishing, bathing; all the very best of its kind. Bass fishing in the lakes, perch fishing at the piers, brook trout fishing in the streams near by. Excellent roads for automobiling. Boats for lake trips. Recreation of various kinds at Lake Michigan Park Beach.

July weather about Muskegon Lake is not oppressive; it is exhilarating.

The Muskegon Country Club offers you the use of the best golf links and tennis courts in the middle west.

Muskegon's summer hotels will care for you agreeably and at very reasonable rates.

Come to the Michigan State Medical Society meeting by all means and bring your family.

MUSKEGON-OCEANA COUNTY MEDICAL SOCIETY

Regular meeting of the Muskegon-Oceana County Medical Society was held at the residence of Dr. L. N. Eames, Friday evening, March 22, 1912.

Members present: Drs. Geo. S. Williams, I. M. J. Hotvedt, F. B. Marshall, J. F. Denslow, J. T. Cramer, G. J. Hartman, W. P. Gamber, W. A. Campbell, A. A. Smith, L. N. Eames and V. A. Chapman, and Dr. Parker of Hackley Hospital as guest.

The minutes of the last meeting were read and approved as read.

A communication from Hon. J. C. McLaughlin regarding the Owen bill was read.

The committee on public lecture reported that Dr. M. P. Ravenel of Madison, Wis., could be secured for a lecture Saturday evening, April 20. The committee was instructed to try to arrange for some date other than Saturday evening.

A communication was read from Dr. Wilfrid Haughey, Editor of the Journal of the Michigan State Medical Society requesting copy and cuts relative to Muskegon for the June number of the Journal to make it a Muskegon number.

A communication was read from the committee for Public Health Education among women of the American Medical Association requesting the appointment of a Public Health committee for this Society. The president appointed as this committee, Drs. Eames, Cramer, Hotvedt and Powers.

Dr. Eames read a paper on "Clearer Diagnosis and Simpler Treatment." The discussion was opened by Dr. Campbell followed by Drs. Hartman, A. A. Smith and others.

It was moved, seconded and carried that Dr. Eames' paper be sent to the editor of the Michigan State Medical Journal for publication.

After luncheon meeting adjourned.

Regular meeting of the Muskegon-Oceana County Medical Society was held at the Occidental Hotel Friday evening, April 5, 1912, following banquet at 6 o'clock as the guests of Drs. G. J. Hartman and W. P. Gamber.

Members present: Drs. Geo. S. Williams, L. N. Eames, L. I. Powers, J. M. Vander Ven, A. F. Harrington, J. T. Cramer, R. G. Olson, P. A. Quick, F. W. Garber, N. DeHaas, Jacob Oosting, J. F. Denslow, W. P. Gamber, A. A.

Smith, G. J. Hartman, W. A. Campbell, F. B. Marshall and V. A. Chapman.

As guests, D. Emmett Welsh, of Grand Rapids, president of the Michigan State Medical Society; Dr. Wilfrid Haughey, of Battle Creek, Secretary of the Michigan State Medical Society; Dr. Earl Bigham, of Grand Rapids; Dr. N. H. Kassabian, of Coopersville, and Dr. H. C. Parker, of Hackley Hospital.

Dr. Welsh read a paper on, "Affections of the Eye in Relation to Kidney Lesions."

Dr. Hartman read a paper on, "Diagnosis and Treatment of Kidney Lesions."

The discussion was opened by Dr. Gamber, who was followed by Drs. Haughey, Bigham and others.

Dr. Welsh and Dr. Haughey each gave a talk on matters concerning the coming meeting of the Michigan State Medical Society to be held at Muskegon.

It was moved, seconded and carried that this Society requests the date of the Michigan State Medical Society to be changed from the 19th and 20th of June to the 10th and 11th of July. Meeting adjourned.

V. A. CHAPMAN, Secretary.

WAYNE COUNTY MEDICAL SOCIETY

At the meeting on the evening of April 8, 1912, on motion the program was postponed and an adjournment taken. The Society immediately reconvened as a special Memorial Meeting to honor the memory of its suddenly deceased President, Dr. H. O. Walker, Vice-President Schenck and Secretary Cullen presiding.

Dr. Ernest L. Shurly presented a Memorial Address on the life of Dr. Walker. On motion this Memorial Address was adopted as the Society's memorial resolution and it was ordered spread on the minutes of the Society and especially prepared copies sent to the family, the State JOURNAL and the *Journal* of the American Medical Association.

Following Dr. Shurly's address, the following members spoke along the same lines, Drs. J. H. Carstens, Eugene Smith, F. B. Tibbals, James Samson and Rolland Parmeter.

At the General Meeting on the evening of April 15, 1912, Dr. C. W. Hitchcock read a paper entitled "Some of the Inter-Relations of Medicine."

A letter was read from Police Commissioner Croul, which on motion is here reproduced.

To the President, Wayne County Medical Society:

Dear Sir: Numerous complaints have been made by officers of this department that unwarranted advantage is being taken by a fairly considerable number of physicians of the use of the red cross on their automobiles.

There have been cases brought to my attention where doctors or physicians were speeding in a manner that endangered people getting on or off cars along Woodward and Jefferson Avenues in the busy hours—in fact it has reached a point where there must be a radical change, otherwise the need of protecting the public from this condition will make it necessary for me to instruct officers to pay no attention to the use of this insignia, which I certainly would regret very much.

Very respectfully,

F. H. CROUL, Commissioner.

The following applications for membership having been favorably considered by the Board of Directors, were, on vote of the Society, accepted for membership, the first two to active and the others to associate membership:

E. V. Joinville, D. C. of M., '09, Detroit.

A. Wm. Lescohier, D. C. of M., '09, Detroit.

C. F. Meek, Queen's Univ., Ont., '99, New Baltimore, Mich.

Fred Grover, Cleveland Coll. P. & S., '86, Fraser.

G. G. Roberson, D. M. C., '77, Utica, Mich.

V. H. Wolfson, D. C. of M., '09, Mt. Clemens, Mich.

The change in date for the meeting of the Michigan State Medical Society for most members of the Wayne County Medical Society is most unfortunate, therefore, following some discussion and on motion, the Society instructed Councilor Biddle to vigorously protest against it.

The Secretary read the recent editorial in the *Journal* of the A. M. A. on "What's the Matter with Michigan." The president then introduced Mr. Hugh Shepherd, Prosecuting Attorney for Wayne County. Mr. Shepherd in a vigorous and eloquent address, told of his proposed campaign against "quack doctors" and "illegal practitioners" in Wayne County and asked both the active and moral support of this Society. He said in part: Since my action against certain quack medicine men last Saturday, I have been pleased with the manifested support and offers of assistance by many of your profession. It seems strange that the

prosecuting attorney has to wrestle with these and various other problems of reform. Why has it been necessary for me to do this? Simply because it was not done when I took office. Why not? Because the average public official wants to perpetuate himself in office. This perpetuation in office of incompetent officials is made possible because the law abiding citizens do not vote, while the rabble does. No public official can conscientiously put his personal interests before the interests of the general public. It makes no difference what becomes of me if the interests of the people are safeguarded. In the various recent raids against cheap dance halls, slot machines, loan sharks and quack doctors, our efforts would have been fruitless without the active support of the police department. We also owe much to the publicity given by the newspapers.

He outlined the methods of these quack establishments and compared the principals to highway robbers. One of these concerns had receipts of over $4,000 a month.

Mr. Shepherd then asked the support of the Society in his campaign against these people and suggested the passage of certain laws by which they could be "run out of business." He was emphatic in his assertion that the State Board of Registration should take action to revoke the licenses of the physicians attached to these quack concerns.

Following the address, on motion, the Board of Directors was asked to appoint a committee of three to assist the prosecuting attorney in his fight against "illegal practitioners."

Some of the Interrelations of Medicine

By Charles W. Hitchcock.

"The principle of division of labor has come late in medicine and has been forced by the widening field which makes it impossible for any man to well cover the whole.

The specialist has every incentive to be a broad rather than a narrow man, if he have a correct grasp of his special field and its relations. The boundaries of the different fields cannot be hard and fast lines but those active in any one field will be little likely to intrude greatly upon details outside their own sphere of work. The whole patient, however, must be studied and the specialist not wear "blinders" which narrow his view.

With internal medicine neurology is in particularly close relation. The dependence of the nervous system for its integrity upon an unimpaired blood-supply relates nervous diseases to the problems of cardiovascular departures from the normal; altered blood-pressure, changes in the blood itself, the toxemias, etc. The apoplexies are here intimately connected.

Pernicious anemia entails marked cord-changes which find their clinical expression in various subjective symptoms, spastic paraplegia—mental symptoms, etc.

There are many nervous symptoms of obscure origin which have their seat in an altered circulation.

The pathology of the kidney likewise involves many distinctly nervous symptoms which relate the neurologist to renal changes. The nephroptoses and the enteroptoses as well are profound disturbers of nervous balance. The pathology of the glands of internal secretion likewise gives rise to frequent nervous disturbance.

The surgeon, the gynecologist, the oculist, the aurist, the neurologist, all of them find their fields not infrequently touching that of neurology. Each needs at times the help of the other and we all need that breadth of view which shall make us harmonious workers, helpful to each other in working out the intricate problems of medicine."

Dr. J. H. Carstens, in discussing the paper, said: Virtually I agree to everything that Dr. Hitchcock said. It is simply the question of correct diagnosis, for which I have pleaded continually. The family physician must know what part is diseased, and if he cannot tell the exact condition call in a specialist to help him, sometimes he will have to call in two or three, as conditions point to one or the other kind of trouble. In the development of the specialist, I have always claimed, he should be a product of evolution, and must be first, a general practitioner to get big, broad views in the field of general medicine, when he graduates he may want to take up a certain line in the future, but by being a general practitioner he may find that he is adapted on an entirely different line, and may become a great internal medicine man, when he started out to be a surgeon.

Dr. Emil Amberg said that the construction of the human body is such that the absence of close interrelations would be utterly surprising. He cited as illustrations cases of apparent nose and throat affections in which the Binet tests, tests to establish the mental age of the individuals, were helpful in diagnosis, a case in which the differential diagnosis between refrigeratory and otitic facial paralysis

was difficult and in which further development showed necrosis in the mastoid process, a case of changes in the region of the cerebellum and pons in which the Vienna tests for labyrinthian disturbances shed light on the condition which in all probability was of a specific nature and a case of a hysterical attack during an acute otitis media. In consultations he has frequently encountered an excellent diagnosis per exclusionem made by the family physician.

Drs. Freund, Livingstone, Hirschman, Robbins and Goux also discussed the paper.

At the meeting of the Surgical Section on the evening of April 22, 1912, Dr. G. Van Amber Brown read a paper entitled "The Newer Methods of Diagnosis of Bladder and Kidney Lesions." The paper was illustrated by a number of lantern slides. The doctor also exhibited a patient affected with arthostatic albuminuria, in whom a supernumerary rib on the right side had been found by means of the *x*-ray.

The election of officers for the Surgical Section took place at this meeting, resulting in the choice of Dr. F. B. Walker for chairman, and Dr. Raymond C. Andries for secretary.

Fifty-five members were present.

At the general meeting on the evening of April 29, 1912, the members of the Detroit Retail Druggists' Association were our guests. The subject for discussion was, "Emergency Cases—the Attitude of the Pharmacist and the Physician." Mr. Frederick Rohnert discussed the subject for the D. R. D. A., and Dr. James Cleland, Jr., for the W. C. M. S.

Upon vote of the Society, C. M. Wheeler, Dentist, Detroit, was admitted to associate membership.

Upon motion of W. J. Wilson, Jr., a joint committee of five members will be appointed by the president to study the question of the deterioration of certain drugs. The object of Dr. Wilson is to call the attention of the manufacturers of certain pharmaceuticals to this question and to obtain their cooperation in its correction.

Dr. F. W. Robbins, after some remarks in which he quoted from the Code of Ethics of the American Medical Association and also read from an advanced copy of the proposed change which will be voted on at the next meeting of the Association at Atlantic City, introduced the following resolution:

Whereas, There has been of late in the Medical Profession a growing tendency toward commercialism with a corresponding loss of ethical ideas;

Whereas, The president of the American Medical Association, in his annual address at Los Angeles, took a strong stand against the growing evil of paying commissions for referred cases and has been actively seconded by others, especially Dr. C. A. L. Reed in April *Pearson's;*

Whereas, Such dividing of fees as prevails in other communities is not unknown here, and is directly contrary to the Principles of Ethics as adopted by the American Medical Association:

Resolved, That a committee of five be appointed by the president to consider this matter in all its aspects, and that it report with recommendation at the first meeting in October next, when discussion may be full and such action as seems desirable be taken.

It was moved and supported that a committee be appointed to study the question of division of fees and report at the first meeting of the Society in October next.

Dr. A. N. Collins presented a picture to the Society of the late Dr. Donald McLean, as a gift from Mrs. Donald McLean. A vote of thanks was tendered to Mrs. McLean.

President B. R. Schenck and Secretary R. C. Jamieson presided. A luncheon was served.

Attendance 125.

Emergency Cases—the Attitude of the Pharmacist and the Physician

By Frederick Rohnert, for D. R. D. A.

Perhaps we are sometimes wrong in assuming that we know all about the effect of a remedy, we, as Pharmacists, dispense, for we have no intention of overstepping our office as Pharmacists. We do not wish to jeopardize anybody's health or life.

We are oftentimes compelled to apply remedies from humanitarian motives, alone. We know, perhaps, the good effects of some drugs, but we do not know what harm may result from their use. Since time immemorial the arts of healing and the preparing of medicaments have been closely allied. As time has passed a division of labor has taken place and later we see the development of the chemist and the physician as separate professions. My own memory goes back to the days of apprenticeship, my struggle with botany and the perusal of what seems to me now, crude text-books.

The physician at that time, generally speaking, was not the finished product he is to-day, for his required term of education was almost as meager as that of the pharmacist—time again has changed all this. Formerly it was considered legitimate for the pharmacist to recommend and sell his mixtures and receipts for simple complaints, he was often held in high esteem and persons came from great distances to consult him. The physician also had secret receipts and mixtures which he dispensed under similar circumstances. The combination of these two conditions has quite likely produced many "patent medicines."

The more distinct application of chemistry and pharmacy, and the wider and fuller knowledge of disease and healing by the physician have quite left the pharmacist out of place in the application of medicines. It is very natural for some persons for various reasons to come to a drug store and ask for relief.

I do not believe that a legitimate pharmacist would sell or prescribe a mixture simply for pecuniary gain.

Accident cases are so well cared for now by the police department that this can make but little call upon the druggist, but to protect and aid them while the ambulance is on the way.

There are many cases of headache and constipation that consult the pharmacist and he is driven to his wit's ends to dissuade them from taking drugs of questionable value. I believe we should advise this class of patients to consult a reputable physician, and this has always been my policy.

I absolutely think it wrong for a druggist to attempt to diagnose a case of illness or prescribe therefore, but do think it proper when the customer has made his own diagnosis, to sell to him such remedies as he may call for, provided it is of a non-poisonous nature—we must remember we are in the drug business for the purpose of selling drugs.

Emergency Cases—the Attitude of the Pharmacist and the Physician

By James Cleland, Jr., for W. C. M. S.

By "Emergency Cases" we mean first aid cases. The well meaning druggist has neither time nor does he care to assume the responsibility for the diagnosing and treatment of disease. In surgical emergency cases there is little for the druggist to do—protect the patient and await the surgeon or ambulance.

In the handling of medical cases greater latitude is allowed.

The druggist should keep in mind that any case, no matter how slight, has its relative importance.

Speaking in general, the first aid treatment of all cases coming into the hands of the druggist can be summed up in a few words:

1. Apply common sense principles in making the patient as comfortable as possible.

2. Give only the simplest forms of medicine.

3. Do not place yourself in a position in which you may be criticised.

The doctor can stand criticism, the druggist cannot.

The papers were discussed by Mr. R. W. Rennie, Mr. F. W. R. Perry, Dr. I. L. Polozker, Mr. W. A. Hall, Dr. H. W. Longyear, Mr. G. B. Simons, Mr. Charles F. Mann, Dr. W. J. Wilson, Jr., Dr. F. W. Robbins and Dr. L. J. Hirschman.

NEWS

Mr. Frank Van Leuven, an undertaker, has been reappointed Health Officer of Newaygo. It is reported that the physicians consider the salary of $12.00 per year as too small.

At the April meeting of the Board of Regents of the University Dr. Wm. F. Breakey resigned as Professor of Dermatology, retiring under the Carnegie Foundation. Dr. Breakey was President of the Michigan State Medical Society in 1903.

Hon. John F. Fitzgerald, Mayor of Boston, Mass., has advertised for applications for the position of chairman of the board of health of the city of Boston. The duties of the chairman and his two associates embrace the control of contagious diseases. inspection of milk, vinegar, provisions, tenements, etc., medical inspection of schools, management of a small-pox hospital and a quarantine station, and such other duties as might come before a board of health. The salary is $4,500 per year with a probable increase to $5,000. The appintment is made by the mayor subject to confirmation by the civil service commission and the new appointee will serve out two years of an unexpired term. The full term is three years. Applications should be addressed to the mayor.

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1912, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Formicin is formaldehyde - acetamide, $CH_3.C.O.NH.CH_2.OH$, a molecular compound of formaldehyde and acetamide. It is a thick, syrupy, water-soluble liquid, having a faint formaldehyde-like odor and a slightly acid, bitter taste. Solutions of formicin liberate formaldehyde gradually at body temperature, and thus exert an antiseptic action. Formicin solutions are employed as injections into tuberculous and non-tuberculous joints, tissues and abscesses. Kalle & Co., New York (*Jour. A. M. A.*, April 6, 1912, p. 1014).

Iodo-Casein is a compound of iodine with milk casein, containing about 18 per cent. of iodin in organic combination. It is a powder, almost odorless and tasteless, and insoluble in water. It is said to undergo practically no change in the stomach, but to be quickly digested and absorbed in the form of soluble iodides, in the intestines. Dose, 0.3 to 1.3 gm. (5 to 20 grains). Iodo-Casein is also marketed in the form of tablets, each containing 0.15 gm. (2½ grains) and 0.3 gm. (5 grains) iodo-casein. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, April 6, 1912, p. 1014).

Meningo-Bacterin is a meningococcus vaccine believed to be useful in immunizing against the meningococcus of Weichselbaum. H. K. Mulford Co., Philadelphia, Pa. (*Jour. A. M. A.*, April 13, 1912, p. 1114).

PHARMACEUTICAL PREPARATIONS OF ACCEPTED ARTICLES

L.-Suprarenin Synthetic Bitartrate Tablets, 0.001 gm., each containing 1-suprarenin synthetic bitartrate equivalent to 0.001 gm. (1/65 grain), 1-suprarenin synthetic (*Jour. A. M. A.*, April 13, 1912, p. 1114).

Colon Vaccine is a *Bacillus coli* vaccine, marketed in bulbs ready for use. Parke, Davis & Co. (*Jour. A. M. A.*, April 20, 1912, p. 1195).

Gonorrheal Vaccine (Combined) is a gonococcus vaccine containing *Micrococcus gonorrhœæ* and *Staphylococcus albus, aureus* and *citreus* bacteria. Parke, Davis & Co. (*Jour. A. M. A.*, April 20, 1912, p. 1195).

Typhoid Vaccine (Prophylactic) is a typhoid vaccine containing *Bacillus typhosus* bacteria. Parke, Davis & Co. (*Jour. A. M. A.*, April 20, 1912, p. 1195).

Furunculosis Vaccine is a staphylococcus vaccine containing *Staphylococcus pyogenes aureus* bacteria. Parke, Davis & Co. (*Jour. A. M. A.*, April 20, 1912, p. 1195).

Acne Vaccine is a vaccine prepared from acne bacilli. Parke, Davis & Co. (*Jour. A. M. A.*, April 20, 1912, p. 1195).

Combined Bacterial Vaccine is a vaccine containing bacteria of mixed *Streptococcus pyogenes, Staphylococcus pyogenes aureus, S. pyogenes citreus, Bacillus coli communis* and *Diplococcus pneumoniæ*. Parke, Davis & Co. (*Jour. A. M. A.*, April 20, 1912, p. 1195).

Since March 26 the following articles have also been accepted for inclusion with New and Nonofficial Remedies:

L-Suprarenin Synthetic Bitartrate Tablets (V. Koechl & Co.).

Colon Vacine (Parke, Davis & Co.).

Gonorrheal Vaccine (Combined) (Parke, Davis & Co.).

Typhoid Vaccine (Prophylactic) (Parke, Davis & Co.).

Furunculosis Vaccine (Parke, Davis & Co.).

Combined Bacterial Vaccine (Parke, Davis & Co.).

Acne Vaccine (Parke, Davis & Co.).

Novocain Tablets "D" (Victor Koechl & Co.).

Novocain Tablets "F" (Victor Koechl & Co.).

Novocain Suprarenin Tablets "A" (Victor Koechl & Co.).

Novocain Suprarenin Tablets "B" (Victor Koechl & Co.).

Novocain Suprarenin Tablets "C" (Victor Koechl & Co.).

Novocain Suprarenin Tablets "E" (Victor Koechl & Co.).

Proferrin (H. K. Mulford Co.).

Proferrin Tablets, 1 gr. (H. K. Mulford Co.).

Proferrin Tablets, 2½ grs. (H. K. Mulford Co.).

Proferrin Tablets, 5 grs. (H. K. Mulford Co.).

Meningo-Bacterin.

Tyramine (Burroughs Wellcome & Co.).

Tuberculin-Rosenbach (Kalle & Co.).

The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

Vol. XI BATTLE CREEK, MICHIGAN, JULY, 1912 No. 7

ORIGINAL ARTICLES

PROPHYLAXIS AND MANAGEMENT OF CARDIO-VASCULAR DISEASES*

M. A. MORTENSEN, M.D.
Battle Creek, Mich.

The study of the circulation both normal and pathologic has interested the medical profession for centuries, and still holds our attention, because we are daily brought face to face with disturbances that are of serious import, terminating fatally before our eyes.

Having recently read the greater part of Harvey's thesis on the circulation of the blood, published in 1628, I cannot fail to pay him tribute for this wonderful communication, which justly gives him the honor of being the first to correctly describe the circulation of the blood. Practically every view advanced by Harvey stands accepted to-day. [Any one interested in the history of medicine and especially our knowledge of the circulation should read this thesis.] In his day it was said: "The heart is the fountain and work-shop of the vital spirits, the center from which life is dispensed to the several parts of the body." Then and to-day the heart was recognized as the most vital organ of the body, and any individual recognizing that the heart is not doing its work properly becomes justifiably alarmed. It is an undeniable fact that a large majority of the individuals having any organic basis for any disturbance in the circulation do not live out the normal length of life. Every physician cannot fail to realize this from his daily experience and observation.

For several months I have watched the obituary notices in the papers and have been struck with the large number of deaths reported due to the failure of the heart or the bursting of a blood-vessel. My experience in dealing with chronic diseases has also impressed me with the large number of invalids above 40 years of age who are developing, or have developed, certain signs of a degenerated cardiovascular system far beyond their years. These observations led me to choose this subject to present to you, and I hope that I may show you that an ounce of prevention is a thousand-fold more valuable than a cure, because when the

* Read before the Calhoun County Medical Society, April 2, 1912.

degeneration of the heart or arteries takes place, then all that we can do is only of temporary nature, because sooner or later we must expect that the signs of the failing circulation or degeneration of the blood-vessels will return with increased viciousness.

During the last decade or more the medical profession has been aroused to constant activity in an effort to prevent the occurrence of contagious diseases, and already statistics prove that the effort has been crowned with a decided degree of success. The laity in every nook and corner of the civilized world has more or less of a clear understanding about how to prevent the spread of tuberculosis, typhoid fever and other contagious diseases. During the summer months one cannot read a newspaper without being struck with the constant warnings that are given in its columns with reference to the danger of improperly feeding infants, and at the same time spreading abroad a fair knowledge of the fundamental principles of the care of the child. As a result of this we begin to see by statistics a decrease in infant mortality in our large cities.

Right in connection with this devote a moment's thought to the vast army of invalids throughout the country who are handicapped in one way or another by chronic ills, whose efficiency in the battle of life is decidedly decreased, and who in addition are missing much of the joy of living. Among this class you will be surprised at the number of individuals above 40 years of age who are either suffering subjectively with symptoms of cardiovascular degeneration or unmistakable objective signs of beginning trouble. Statistics show that there has been an alarming increase in deaths due to diseases of the cardiorenal system. In the registration area in the United States from 1901 to 1905 the average annual number of deaths due to heart disease was 40,612, and in 1909 there were 65,971 deaths due to the same cause. During the same period the number of deaths due to angina pectoris increased from 2,143 to 3,481. Since 1880 the death-rate from heart disease has increased in Massachusetts 105 per cent., and in the United States registration area 57 per cent. Deaths from apoplexy in Massachusetts have increased 135 per cent., and in the United States registration area 84 per cent. During the same period deaths from diseases of the kidneys have increased in Chicago 167 per cent. and in the United States registration area 131 per cent.; and in the United States registration area there has been an increase of 83 per cent. from diseases of heart, arteries and kidneys. These figures certainly speak for themselves and should certainly arouse us as physicians to the fact that something must be done to stop this increase in death from these causes. Part of this increase may be due to more careful diagnosis, but aside from this there must be other factors causing this increase, and against these we, as physicians, must wield our warfare. It is our purpose and duty to prevent the occurrence of disease as well as to cure disease once established.

In order that we may do the best for those whose health is under our watchcare, we must understand some of the underlying factors concerning the function of the heart. It is the central organ of the circulation, which has to be maintained in absolute equilibrium, and this is done to a wonderful degree in the normal individual, when we remember if one side of the heart fails for a moment to pump as much as the other side, signs of incompensation must appear. The heart must be thought of primarily as a muscular organ contracting and relaxing with great frequency and regularity. The condition

of the valves is really of secondary importance, as long as the muscle is in good tone. Its wonderful ability to hypertrophy shows its inherent power to adjust itself to new problems of the diseased valves, and this fact proves to us that it must be equipped with a wide margin of efficiency. It is able normally to increase its work many fold beyond the ordinary demands. When organic changes take place in either heart or vessels, either the ability of the heart to do its work is decreased, or an extra amount of work is required. In this way the margin of safety is diminished, and as it is more and more encroached on, the signs of incompensation begin to appear. And at this point the efficiency of the heart is overcome.

The causes of excessive demands on the heart drawing on the margin of safety may exist in the heart itself or be external to it. Valvular defects are, of course, the most common of the causes existing in the heart. Myocarditis or any degeneration of the heart muscle lessens its efficiency, so that it may not be able to come up to the normal demands. Coronary sclerosis, degeneration in the region of the sinus venosus and bundle of His affect the transmission of the cardiac impulse, and thus interfere with the work of the heart. Of the conditions outside of the heart that increase the demands are arteriosclerosis and interstitial nephritis, which increase the work of the left heart; pneumonia or other conditions in the lungs increase the work of the right heart. In the management of these cases, heart failure is the thing to be avoided, hence it is of the utmost importance that the first signs of this condition be understood and early recognized. MacKenzie and others justly criticize the popular conceptions of heart failure which put it on a mechanical basis, laying great stress on murmurs and irregularities, basing their prognosis on these signs. Experience has taught me that murmurs are really of little significance, and further, it is not unusual to find patients suffering with myocarditis or other muscular degeneration assuring me that their physicians had assured them that the heart was all right — of course, basing their opinion on the fact that no murmurs were present.

In order to correctly appreciate the import of any symptom it is essential to seek out its bearing on the heart's efficiency. If we consider the function of a healthy heart we are often forced to conclude that murmurs may be consistent with perfect health. The essential factor in maintaining the circulation is the heart muscle, and any disease in the heart or blood-vessels embarrasses the muscle in its work. The heart possesses the power of varying its activity according to the body requirements and hence the force inherent in the heart for practical purposes may be divided into two parts: first, to maintain an efficient circulation when the body is at rest, which MacKenzie designates as "rest force," and must be looked on as the minimum force which the heart can exert to maintain a circulatory equilibrium consistent with life. Any encroachment or impairment of this must necessarily lead to serious results. The second part of the heart force is that which is called on when the body increases its activity. It enables us at any time to indulge in all sorts of physical efforts with comparative ease, and its presence is essential for all efforts of activity common to our daily life, and hence may properly be called "work force." From this standpoint it is evident that heart failure is the inability of the heart to regain sufficient "work force" during its period of rest.

In order that we may properly appreciate a patient's condition, it is necessary

for us to assure ourselves concerning the work force of the heart, and remember that the rest force must not be encroached on, because with it a fatal outcome is near at hand. Making examinations of his patients, MacKenzie says the following:

"I insist upon the patient describing his own sensations and all attending circumstances minutely. I inquire carefully into the manner in which the individual presenting any abnormal sign accomplishes his daily work or play. If he is young, how he comports himself during effort, as in playing some game or running a race. If he is middle age or elderly, how he carries out his work, and also how he may be able to undertake some effort. I try to ascertain if he can do the work and effort of a healthy man at his time of life, and if I am satisfied that he can do that, then I give him a good prognosis. In doing this, I am testing the amount of work force, and if I find that even with a recognizable defect, the individual does lead a healthy, untrammeled life, then I know that I have to do with an efficient heart muscle, and the defect is so slight that it does not perceptibly embarrass the heart in its work. When there is any limitation of this power then a careful scrutiny is made of all the possible factors such as overwork, worry, sleeplessness, and other diseases which may induce exhaustion of the work force."

In conjunction with this quotation from MacKenzie I wish to emphasize the importance of giving the efficiency of the heart muscle careful consideration, whether murmurs and irregularities are present or not; here is where the importance of prophylaxis becomes a prime one. Time should be taken to give the individual advice concerning the exercise and care of the body. Emphasize the necessity of avoiding fatigue and exposure. If we take the time to carefully investigate the etiology of a case of cardiovalvular defects, we will be surprised how many give history of some severe infection such as tonsillitis, diphtheria, scarlet fever or typhoid fever in early life, and in many cases we will find that rapid pulse, dyspnea, etc., existed after moderate exertion for some months after convalescence was considered complete. Rheumatism and chorea of course are looked on by all as certain etiologic factors in the production of myocarditis, and this has been emphasized to such a degree that as a rule it is early recognized. I believe it very important that we watch cardiac conditions for months after any severe infection and keep the patient under our control for some time after the recovery from the infection is established. I want to emphasize the fact that tonsillitis is very often the prime factor in endo- or myocarditis; also that all these infections, and especially typhoid fever have an important bearing in the degeneration of the arteries.

In watching patients through severe infections it is of great importance to make a careful study of the blood-pressure. Gibson emphasizes the fact that from the standpoint of prognosis the study of arterial pressure is of the greatest practical importance in acute diseases. He says the relations between the rate of the pulse and the height of pressure is of great practical value. Some years ago he enunciated the rule that in cases of pneumonia, when the pulse-rate per minute does not exceed the height of the pressure in millimeters of mercury, the outlook is hopeful, but when the converse occurs then the prognosis is grave. Hare has studied this point and is convinced of its value. This being true in pneumonia, there is no reason why it should not be true in other acute infections. The idea is that with the pressure diminishing and the pulse-rate increasing, the myocardium is becoming weak and the toxemia is great.

In cases when there is any myocardial degeneration, great care must be exercised in protecting such individuals against influenza, and this is especially true of individuals after the fifth or sixth decade

of life. During recent years I have been strongly impressed with this fact by the unusual number of cases of chronic myocarditis coming under my care during late winter months showing the first signs of a failing circulation, usually cough, shortness of breath after meals and after exercise, and on careful inquiry a history of an attack of influenza is usually obtained.

The question of overwork causing undue cardiac strains plays a small part in causing valvular lesions or degeneration of heart muscles, when the infection and other after-effects are eliminated. Violent exercise, such as running and swimming, produce acute dilatation even in the healthy heart, but it occurs more often in those individuals where some infection or toxemia has previously lessened the work force of the heart. The prolonged use of tobacco and coffee unquestionably influence the heart's capacity for work. Every one of us has recognized the tobacco and coffee heart. The use of these drugs never increases the individual's efficiency in any way, but overindulgence in either of them will unmistakably have a deleterious effect on the circulatory system. It is my rule to absolutely prohibit the use of either if there is any sign of cardiac degeneration. The toxemia from overeating has a bad effect, and we are not doing our duty by the patient unless we inform ourselves with reference to their habits of eating and the function of the digestive organs, and correct any errors that they may be committing.

Concerning the conditions outside of the heart that cause embarrassment of the circulation, I will confine myself to degeneration of the arteries, that is, arteriosclerosis. It is an insidious disease, so much so that unfortunately it is not apt to be recognized in the early stages, unless some other condition forces the patient to have a thorough examination. The arteriosclerosis may be general or it may be localized, but wherever it is, it is certain to give trouble sooner or later. The effect of the sclerosis is usually first noticed by the hypertrophy, and with it the development of the accentuated second aortic sound, which becomes more ringing in character as the resistance in the general circulation increases. The sclerosis may involve the aorta or coronary arteries and we get the subjective symptoms in and around the heart, due to aortitis or a defective blood-supply to the heart muscle. In addition to the purely circulatory disturbances, we find an impaired nutrition, especially in people over 50 years of age, and if the heart becomes embarrassed under mild exercise. The kidneys are also very apt to undergo sclerotic changes, and of course this adds more burdens to the already belabored heart. Here we find the elimination of protein waste products interfered with, and this still further embarrasses our patient. You will all agree with me that there is no class of cases that give us so much concern as these cardio-renal ones. The muscular power of the heart and the renal efficiency are the two great factors that determine whether we can give the patient courage and have any hope in our own hearts for them. It has been said that in all such cases with a high blood-pressure, we may be certain that the renal efficiency is impaired, or in other words, we may be sure of the presence of interstitial nephritis.

Recently we have been using the phenolsulphonephthalein test for renal efficiency, which was first recommended by Geraghty and Rowntree. There is no doubt in my mind that this test will prove of inestimable value in clinical work. At the sanitarium up to date about 120 tests have been made for renal efficiency, and of these I found eighty-one with records of blood-pressure taken about the same time.

Of these, fifty-four had a renal efficiency above 50 per cent., with a blood-pressure below 140 mm. of mercury. Two cases had a renal efficiency of 60 per cent. with a blood-pressure of 220 mm. Four with a renal efficiency of 50 per cent. and a blood-pressure above 175 mm. With a renal efficiency of 40 per cent. there were nine with blood-pressures below 140 mm., and six with a blood-pressure above 170 mm. Whether among the nine there were any with a secondary low pressure I cannot say. One patient with a renal efficiency of 33 per cent. had a blood-pressure of 180 mm., one with a renal efficiency of 22 per cent. had a blood-pressure of 148 mm. and one with a renal efficiency of 3 per cent. had a blood-pressure of 234 mm. This shows that a large percentage of cases with a blood-pressure below 140 mm. have a fair to good renal efficiency, but it is very noticeable that there are enough exceptions to the rule so that we cannot judge with certainty the renal condition by the blood-pressure alone. Nor can we depend on the urine, because there were very few of this series that had albumin or casts in the urine. The renal efficiency test is of great value in determining the anesthetic to be used in surgery, and gives us some idea of the prognosis from the use of the anesthetic.

In these cases of arterial degeneration the prophylaxis which may prevent the development and progress of this condition is worth more than any curative measures when the condition is once established. In order to exercise the proper precautions against the development of arteriosclerosis we must consider the etiologic factors. Age is by some considered an important factor, and of course is inevitable, but to my mind this should not be classed in the etiologic causes. There are other factors that, in the large majority of cases, are conducive to arteriosclerosis in company with Father Time. From my study of a large number of cases of sclerosis I am becoming more and more convinced that the largest percentage of these cases are due to toxemia of various kinds, and I would emphasize the toxemia of infections, particularly of syphilis, typhoid fever, rheumatism, pneumonia, malaria and diphtheria. Next to these we have the toxemia of overindulgence in tobacco, alcohol and overeating, all for gratification of taste; of course these latter are very frequently found in combination with the infectious toxemias. The toxemia of overindulgence is especially prevalent among the well-to-do, because economically they are so situated that these things are always to be had as desired. I am convinced that overindulgence in foods, particularly those rich in protein, together with defective elimination from the bowels, skin and kidneys, cause more arteriosclerosis than any one thing. Of course with these, the overindulgence of both tobacco and alcohol is not at all an unusual combination. The toxins are retained in the blood in large quantities, irritating the walls of the blood-vessels, causing a vasoconstriction, which interferes with the nutrition of the arterial wall, causing it to lose its elasticity, and with this the degeneration develops. During the period of vasoconstriction due to muscular spasm, it is not unusual to find a blood-pressure from 150 mm. to 180 mm. and even higher. Such cases under a proper regimen, eliminating tobacco and alcohol and overindulgence in protein-rich foods, accompanied by increased elimination by way of the bowels, skin and kidneys, almost invariably decreases the blood-pressure from 30 to 50 mm. in a few days and at the same time they experience a decided improvement in their feeling of well-being. Such cases are in the presclerotic stage first described by Huchard

and can be given a great deal of help by advising them with reference to their habits of life.

One cause for arteriosclerosis is physical overwork, but this rarely appears before the fifth or sixth decade, and in my experience I have found that this again has nearly always been accompanied by overindulgence in one or more of the above gratifications of taste.

To sum up the prophylaxis in diseases of the arteries, I would say again: avoid infections of highly toxic nature, and the toxemias of overindulgence. For the protection of the whole cardiovascular system I would urge that we ever bear in mind to shield our patients from contagion of all kinds in every way possible, and this can only be done by teaching them, first, how contagious diseases are contracted; and next the fact that every hygienic and sanitary measure used toward the proper care of the body increases their vitality and with this their ability to resist disease. Teach them how to keep the body clean inside as well as outside, and impress them with the importance of going through life with the soft pedal on eating, drinking, smoking, working and worrying.

When a pathologic condition of the heart or arteries has once become firmly established, the management of the disease becomes a very important one. Then it requires all our skill and eternal vigilance to put off the evil day of a broken compensation, or the bursting of a degenerated blood-vessel. In valvular lesions the disease usually progresses through various stages, by most authorities divided into three. The first, where there is a leak in a valve, for example, the mitral, and with it a stasis in the pulmonary capillaries, which leads to cardiac dyspnea. If the action of the left ventricle is sufficiently vigorous to carry blood away from the pulmonary circulation rapidly enough, then the dyspnea disappears and we have no symptoms of a subjective nature.

The second stage is where we have a broken pulmonary compensation, manifesting itself by dyspnea, which comes on with even moderate exercise, producing pulmonary engorgement. If the heart can hypertrophy sufficiently, then the condition may pass back to the first stage, but if this does not occur, then the third stage is established with a broken systemic compensation, indicating that the right ventricle has begun to fail, blood begins to stagnate in systemic veins and the vicious circle is established. Here we have in addition to the dyspnea of pulmonary engorgement one of medullary origin, because of oxygen hunger in the tissues, and the patient has to sit up in order to breathe. With this, increasing edema, scanty urine, etc., we have before us the well-known picture of a completely broken-down compensation. The same picture with few variations develops in all forms of cardiac failure, whether the region be in diseased valves, myocardial degeneration or the embarrassment of the heart by degeneration in the arteries. In every form of cardiac failure, no matter what the stage, the first and last remedy to be applied is rest, and one cannot be too explicit in explaining to the patient just what is meant by this measure. This helps to remove the overstrain of the heart and allows the circulation to return to its normal equilibrium; continued for some time, the tonicity of the heart muscles is improved, which is of the utmost importance. If in an acute stage of an endocarditis, then the rest must be kept up until the vegetations on the valves become organized and covered with endothelium. If the focus of infection can be removed then this should be insisted on at the earliest possible moment.

For some time Professor Barker of Baltimore has had the tonsils removed following endocarditis with most gratifying results. In conjunction with the rest, care must be exercised in the diet, both with reference to amount of food and quantity of fluid imbibed. In most cases it is well to restrict the liquids to, at most, 1,500 c.c. and often 800 c.c., according to the state of compensation. In some cases the Carrell diet, consisting of only 800 c.c. of milk a day has a very beneficial effect in certain selected cases. The amount of salt ingested must be limited in all cases with a tendency to edema, and as a rule one must call attention to the importance of this in no uncertain terms.

Next of importance we must bear in mind the hygiene of the body, and properly administered baths are of great benefit to these cases. We all know of the benefit of the Nauheim bath in the management of these cases, and its value is especially manifest during the convalescent stage. The value of this bath is conceded to be due to the mild irritation of the skin by the carbonic acid gas in the water which, in a properly administered bath, should collect all over the body. This irritation results in a mild dilatation of the superficial capillaries and in this way diminishes the work of the heart. Personally, I have seen great benefit in a large number of cases of cardiac failure with the using of hot fomentation over the liver and abdomen, accompanied by cold compress over the heart. This I follow with a cold friction to the skin of the entire body. This procedure has a tendency to diminish the congestion of the liver, which always accompanies a failing circulation, also dilates the capillaries of the skin, and almost invariably gives some relief, at least in the first and second stages of a broken compensation.

The medicinal treatment is of extreme importance, especially in the second and third stages, and of course we all recognize digitalis to be our sovereign remedy. This, together with rest, in the second stage of incompensation, is usually of great value. In the third stage where edema is extensive, we have a great deal of congestion of the abdominal viscera and kidneys, and a diuretic must be combined with the digitalis. The infusion of digitalis with diuretin makes an excellent combination, provided it does not irritate the stomach so as to produce nausea or vomiting.

During the last four years in a large percentage of cases I have been in the habit of using a combination of digalen with the diuretin. The digalen rarely creates any disturbance in the stomach, and my experience has been that when these do not give a good diuresis and improve the tone of the heart muscle, no other combination of remedies has given me any satisfaction. It must be borne in mind in the use of diuretin that it should be given in rather liberal doses for about three days and if no results are obtained it should be omitted for a few days, because it soon loses its efficiency by continued use.

Caffein with sodium benzoate given hypodermically is often of value in relieving dyspnea, giving an added stimulus to the kidneys, and is one of the best remedies in cardiac collapse. When convalescence has been fairly well established, the problem of exercise must be considered, and in the severe cases it must be insisted on. At first only passive measures are adopted, then to this mild resistive exercises are gradually added, until the patient is able to move about slowly and carefully and gradually increase the efficiency of the heart and freedom of motion. Such patients always should be warned against

making any sudden exertion or undertaking any fatiguing efforts.

In the management of our cases of arteriosclerosis we must bear in mind that there is always an optimum blood-pressure that is a balance between the cardiac tone and power, and the resistance in the arteries. In all cases of actual arteriosclerosis there exists a lower limit of hypertension below which the systolic pressure cannot be reduced without going into the region of secondary low pressure. Martinete says that every progressive diminution of the systolic tension which is accompanied by an appreciable lowering of the diastolic tension is an indication of a true arterial hypertension and is ordinarily favorable. Practically one may conclude that every depression of the systolic tension which is accompanied by a raising of the diastolic tension indicates a yielding myocardium. In order that the arterial tension may be maintained at its optimal level, everything that can be done to maintain the best general health must be given careful attention. We must look after the hygiene of the skin with special reference to elimination and to maintenance of a vigorous peripheral capillary circulation, which is best controlled by proper bathing and clothing. Diet must be carefully regulated with reference to fluids and solids. Special attention must be given to elimination by way of the bowels, and from my experience and observation in these cases, I cannot emphasize this fact too strongly. Elimination by way of the kidneys must also be watched carefully and by so doing we minimize the accumulation of poisons in the body, and thus lessen the irritation of the arteries. The patient should be instructed with reference to moderate exercise, and be urged to live under such conditions that an abundance of fresh air is always at his command.

In closing I wish to emphasize the importance of early detection of any degeneration of the heart or arteries, and then that we, as physicians, must not neglect our duty in giving these individuals proper instruction with reference to their daily life in order to thwart the development of those serious conditions, and by so doing lessen the mortality of the cardiovascular diseases.

SURGICAL SUGGESTIONS

[From *American Journal of Surgery.*]

When the abdomen is opened to discover the sigmoid, if it is not found at once, search should be made toward the median line.

If blood is vomited in large quantity it is important to distinguish, by the history and physical signs, between gastric ulcer and ruptured varicosities of the esophagus.

A gangrenous gall-bladder mucosa is usually easily stripped out (Mayo). It is a quicker proceeding than cholecystectomy, and provides more rapid healing than mere cholecystostomy.

Hemorrhage from an old, indurated gastric ulcer is a much more serious matter than bleeding from a more recent ulcer, since in the former the vessel may be unable to collapse and allow clotting.

If rectal examination in a case of intraabdominal carcinoma reveals in the cul-de-sac the infiltration known as "Blumer's shelf" metastasis has developed and radical operation cannot be undertaken.

An amebic colitis that has been quiescent frequently lights up after a complicating liver abscess has been drained. Such patients may recover from the abscess and succumb to the colitis. In all cases of amebic liver abscess, therefore, treat the bowel also, by appendicostomy and irrigation, even though it is giving no symptoms.

PRE-ECLAMPTIC TOXEMIA*

WALTER E. WELZ, M.D.
Detroit

As a preliminary to my remarks I wish to speak of some of the later ideas on the subject. It has been some years since this condition has been noted, but only recently have decided advances been made in the diagnosis and handling of this form of toxemia of pregnancy. Obstetricians now recognize the pregnant state as a condition which borders on the pathologic. With better knowledge of the toxemic states of pregnancy we recognize a closer relationship of one to another. Now acute yellow atrophy of the liver during pregnancy is thought to be a severe, fulminating type of hyperemesis gravidarum. At least pathologic findings indicate that the one is a more rapid, more fatal process of the later state. Investigators believe with good reason that the pre-eclamptic toxemia is simply a continuation of the same condition which causes hyperemesis gravidarum, and there are cases which show a continuation of the first into the second condition. We also know that this state is much more common than was formerly suspected. Such varied dyscrasia of pregnancy as chloasmata and puerperal insanity may be different manifestations of a single toxemia. While we do not know the exact cause of eclampsia we recognize a preceding condition of toxemia which is more important to us than the former state, as we are able by proper diagnosis and prophylaxis to prevent eclampsia in many cases and alleviate the severity of others.

I will not attempt to speak of the pathology further than to explain some of the gross changes produced. The principal seat of pathologic change, as demonstrated by Schmorl in 1893, is the liver in which are scattered small areas of necrosis near the portal vessels. While Williams considers pre-eclamptic toxemia to be distinct from the other forms of toxemia of pregnancy, because of the different pathologic changes in the liver, Ewing shows various points of similarity, and believes that the various toxemias of pregnancy may be different manifestations of the same process. Recently Ewing has demonstrated cases of pre-eclamptic toxemia in which the areas of liver necrosis were central just as in pernicious vomiting of pregnancy. Hofbauer has shown that eclampsia and acute yellow atrophy of the liver are due to the same cause, mainly failure of the metabolic function of the liver. The capillary thromboses are secondary results of a blood-coagulating agent (thrombin) in the liver and other organs. Virchow, Strumpf and von Frerichs demonstrated some time ago the common lesions and symptoms of acute yellow atrophy and eclampsia. The fact that the liver is always involved, and the kidneys, except in cases suffering from chronic nephritis, slightly if at all, shows that the kidney involvement is a secondary process of degeneration which is added to

* Read before the Wayne County Medical Society, Feb. 12, 1912.

the hepatic change. The heart and brains are affected only toward the end, and probably the chloroform or convulsive seizures may have much to do with their impairment. I believe that the liver is affected before any complaint is made of the usual symptoms.

The most important and earliest pathologic change is that of liver necrosis. This is accompanied by, or rather followed by, disturbed metabolism or defective desamidization of proteids. It is probable that the liver is affected before the symptoms of toxemia arise. As the liver is the great organ of proteid metabolism, its impaired condition results in the impaired metabolism which is characteristic of the disease. Clinically it is not rare to see a case of hyperemesis gravidarum later suffer from pre-eclamptic toxemia. It is probable that most cases which suffer from hyperemesis gravidarum and recover have suffered from liver necroses which have been checked, and the organism has been able to accommodate itself to the changed conditions, thus allowing the cessation of symptoms. Other cases which are not capable of overcoming the obstacles arising from the liver necrosis continue on to the condition of pre-eclamptic toxemia. Others perhaps suffer from a later impairment of the liver resulting in a later toxemia. When the liver fails to functionate properly, and hepatic metabolism is impaired, the toxemia of late pregnancy results, and, if the insufficiency of metabolism in proteids is not improved, eclamptic seizures may follow.

The kidneys functionate normally as long as possible, excreting the various changed nitrogenous products as well as possible, besides doing the normal work. When the irritation of the renal epithelium becomes too severe, degenerative and necrotic changes in the renal epithelium begin. This may make itself known by the presence of albumin in the urine, as well as by the decrease in quantity of urine. The presence of nucleo-albumin, which is fairly common in pregnancy, is caused by the irritation of renal epithelium resulting from the passage of an irritating substance through the kidney. Serum albumin and globulin pass only after some damage has been done to the glomeruli sufficient to permit osmosis of serum albumin and globulin through the renal epithelium. The change of nitrogen secretion seen in this form of toxemia is not due to imperfect excretion, but to imperfect metabolism of proteid products. This forces the kidney to excrete the products of defective desamidization.

While the essential factor of pre-eclamptic toxemia appears to be defective desamidization of proteids, recent physiologic studies of the thyroid and parathyroid glands indicate that these glands may have much to do with the defective metabolism of proteids. Berkley and Beebe have shown that following parathyroidectomy, convulsions occur because of some metabolic poison, possibly xanthin or ammonia; also after extirpation of the thyroid and parathyroid, toxemia increases on meat diet, and decreases on milk diet. Carlson and Jacobson have shown that the ammonia-destroying power of the liver is reduced from 26 to 30 per cent., concluding that the increase of ammonia in the blood is due to lessened activity of the liver, and not to acidosis. This would appear to demonstrate that the parathyroid and possibly the thyroid gland, are less active or insufficient in the toxemia of pregnancy. The result is deficient desamidization of proteids in the liver. There is an absolute and relative increase in ammonia excreted in urine, as well as a slight increase of amino-acid and nitrogen rest in the urine. There is a parallel decrease in urea nitrogen. The excess of these

imperfectly metabolized proteid products, especially ammonia and xanthin, causes symptoms analogous with those of toxemia of late pregnancy: increased pulse-rate, increase of blood-pressure, irritated kidneys, headache, malaise, torpor and convulsions are present in both cases. Foulkrod in 1908 and Ward in 1909 have reported splendid therapeutic results from the administration of thyroid extract in pre-eclamptic toxemia.

It has been shown that the activity of one organ depends somewhat on the healthy activity of one or more other organs. The disturbed function of one may have far-reaching results on the work of another or several others. So in this form of toxemia there are several forms of disturbances. With intestinal putrefaction, the absorption of indol or skatol throws additional work on the already overworked liver, resulting in improper function of the liver and increased toxemia. Also acidosis affects the pregnant state adversely by its effect on an already disturbed metabolism. Damaged kidneys by their decreased secretion and lessened excretion of toxic substances may also disturb proteid metabolism greatly.

The pregnant woman, especially toward the end of pregnancy, is laboring under the strain of sorting out and excreting waste products for her growing child as well as for herself. When we consider how frequently in health the functions of the various organs are easily deranged, and how they are incapacitated for the work they are supposed to do, we can readily understand how the added work thrown on these organs during pregnancy can be sufficient to disturb their ability to functionate normally. We know that such important metabolic and excretory organs as the liver and kidney are very apt to functionate improperly during pregnancy even when there are not present lesions of toxemia. Now at the time when these organs are overworked and apt to suffer from inability to functionate properly, and possibly so affected by the changes in them as to be considerably weakened, it may not require a great disturbance in any organ concerned in metabolism to start a train of perverted metabolism and improper secretion which results in pre-eclamptic toxemia. Indicanuria, acetonuria, insufficient thyroid or parathyroid secretion, lessened secretion or activity of various hormones may simply be the indirect cause of toxemia of late pregnancy, by acting as the last straw to break down normal proteid metabolism.

Various grades of toxemia from the mild grade of morning sickness to the fulminating type of eclampsia occur. In this wide range the type of pre-eclamptic toxemia is noted quite frequently. The milder cases may not come to the observation of the physician at all. As women are becoming more habituated to careful oversight during pregnancy we note a larger proportion who suffer from this disorder. It will hardly be possible to estimate the percentage of pregnant women suffering from it, because of the mildness of some cases, and because of the neglect of some pregnant women to consult a physician during this time. Only a few of these cases go on to eclamptic seizures, so that no estimate can be made from this source. Recently cases have been reported to have succumbed to the toxemia without the advent of convulsions. Also children of women suffering from this form of toxemia have died from lesions analogous to those of eclampsia without the advent of eclampsia in the mother.

Subjective symptoms of this toxic state gain a more important position since they have been recognized as indicators of this condition. Malaise, lassitude, epigastric pain, headache, disturbed vision, somno-

lence, hallucinations in a pregnant woman, do not mean that she is nervous or irritable; they point to the fact that she is suffering from poisons which affect her system in such a manner as to cause these symptoms.

The nervous system seems to be especially susceptible to the effects of the toxins of late pregnancy. The headache of pre-eclamptic toxemia is seldom absent from a pronounced case. It is apt to be of a dull, depressing character rather than sharp, though it may be severe. Very commonly the person affected complains of lassitude and sleepiness. The drowsiness may be present for weeks and in severe cases may lapse into coma. Spells of dizziness and coma and a feeling of vertigo may precede the eclamptic seizure. Mental derangements and puerperal insanity are apt to follow severe cases. Disturbed vision varying from slightly impaired function to complete amaurosis may be present. Albuminuric retinitis occurs only in severe cases after the kidney has become involved and this disorder presages convulsive attacks if elimination is not encouraged sufficiently.

Edema of the legs is common, usually after kidney involvement. The eyelids are also apt to become puffed. The presence of general edema points to renal insufficiency, and is apt to be due to chronic nephritis, rather than to toxemia of pregnancy. Frequently edema of the lower extremities is due to overdistention of the uterus, and is the result of interfered return flow of blood from them when there is no toxemia.

Nausea and vomiting occur at various periods of pregnancy. The more severe the liver involvement the greater the tendency to disturbed digestion, nausea, vomiting and epigastric disturbance. The characteristic epigastric disturbance is usually present in severe toxemia, and is often the prodrome of a seizure. These gastro-intestinal disturbances are probably all due to disturbed biliary function.

The blood-pressure increases as the toxemia increases in severity. The sphygmomanometer is the best gauge of the progress of the toxemia. Cases of ordinary severity have a blood-pressure of from 125 to 150 mm. A higher interarterial tension than 150 mm. is always a danger signal in late pregnancy. If there be no abnormal uterine distention or chronic nephritis, this high tension points to a toxemia of great severity, and as the toxemia increases or improves, the blood-pressure indicates the change. In fact the obstetrician must use his sphygmomanometer in the pre-eclamptic toxemia as the practitioner uses his thermometer in fever.

The urine during the pre-eclamptic period shows a more or less decided renal insufficiency. There may be a diminution in quantity of excretion during severe toxemia and suppression may occur before a seizure. Mild cases show little change in the urine; more severe cases have cylindroids, hyaline and granular casts, renal epithelium and red blood-cells. Pre-eclamptic toxemia causes first a slight secretion of nucleo-albumin, later serum-albumin and serum-globulin. The mere presence of albumin is not of great diagnostic importance as severe cases have developed where there had been scarcely a trace, and others with severe albuminuria have had only a mild grade of toxemia. These latter are usually ones suffering from previous kidney impairment or from excessive intra-abdominal tension. A high albumin content or an increasing one is always a danger signal. Indican may be present in the kind of toxemia in which intestinal putrefactive disturbance seems to predominate. Acetone, diacetic acid or beta-oxybutyric acid may be present as the result of disturbed carbohydrate

or fat and carbohydrate metabolism. Their presence is not diagnostic of pre-eclamptic toxemia, but rather of an additional disorder of metabolism.

Since the chemical analysis of the nitrogen content of urine has been systematically made, it has been found that there are certain marked changes in nitrogen excretion. In a normal non-pregnant person the nitrogen of urea excreted represents 87 per cent. of the total nitrogen content of the urine; ammonia nitrogen adds from 3 to 4 per cent., and creatin, uric acid and other purin bodies about 4 per cent. This leaves about 6 per cent. unaccounted for, and this has been called the nitrogen rest or the undetermined N. It is not known just what makes up this "N rest," but probably amino-acids, peptones, Salkowski's colloidal nitrogen and Savare's non-dialyzable nitrogen are parts of it. In the toxemia of the pre-eclamptic state the proportions of these various nitrogen constituents is considerably changed, usually in proportion to the degree of the toxemia. The urea nitrogen decreases, creatin, uric acid and other purin bodies slightly increase, and the nitrogen rest greately increases. The ammonia nitrogen increases slightly; during, just previous to and immediately following the eclamptic seizure there is a very great increase, according to Zweifel. Ewing has pointed out that this indicates not simply a deficient oxidation of proteids but a greater disturbance of metabolism which he has named defective desamidization. As the toxemia increases there is usually a progressive decrease in the amount of urea excreted, but this is not constant as there may be a very severe toxemia with little change in urea excreted.

As the toxemia increases there is a tendency toward increased severity of most of the symptoms. When the toxemia is brought under control there is usually an amelioration of all the symptoms present. While it is seldom that all of the symptoms are present, several are apt to distress the patient at the same time. The two constant and essential symptoms which indicate the degree of toxemia are increased blood-pressure and disturbed proteid metabolism, as shown by nitrogen partition. I wish to emphasize the import of epigastric disturbance, amaurosis, headache and edema of the extremities. No practitioner can afford to neglect these signs in pregnancy. As one or more are apt to be present in this toxemia, one is warned and should proceed to further investigation.

The treatment of pre-eclamptic toxemia is essentially one of prophylaxis. The physician must keep careful record of blood-pressure and urine analysis, and should question his patient for subjective symptoms which should never be disregarded in pregnancy. Urine analysis to be of service should be made at least every two weeks. When there is an abnormal urine greater frequency is necessary depending on the severity of the toxemia. The general practitioner can keep a fairly accurate record by regularly taking the blood-pressure and getting the percentage of albumin by means of Esbach albuminometer. The percentage of urea excreted as well as the absolute quantity are easily obtained by the use of a Doremus ureometer. While it is unpractical for the general practitioner to obtain the undetermined nitrogen, he can estimate the urea excretion and so be warned as to the disturbed metabolism as the defective desamidization is usually accompanied by decreased urea output. As soon as the condition is recognized the patient should be helped to return to normal metabolism. Elimination of defectively metabolized proteids should be encouraged in order to rid the system of the substances which are

toxic to it. Depending on the severity of the condition relief may usually be obtained by regulation of diet, stimulation of elimination and correction of defective hygiene.

As the disorder is one of defective desamidization, the quantity of albumin ingested should be reduced as much as possible so as to permit the proteid metabolism to return to the normal. Milk is the best diet for this purpose. When the condition of the patient improves as indicated by the blood-pressure, and changes in urinary nitrogen excreted, a greater range of diet may be allowed, always restricting the quantity and quality of nitrogen containing food. Lettuce, asparagus, spinach, bread and butter are the foods which may be added first. With great improvement more may be added, providing there is no increase of toxemia resulting from their use. Elimination may be aided by copious draughts of water. Catharsis is obtained by use of enemata or salts. Severe cases may be helped by proctoclysis with a warm decinormal saline solution. Hot packs and hot baths are of great service in severe toxemia; milder cases are aided by warm baths given once or twice daily. Rest is necessary as well as intestinal hygiene, relief of acidosis and indicanuria. Thyroid extract may be of service if the toxemia is not too far advanced.

If, in spite of these efforts, the condition becomes worse, it may be necessary to empty the uterus. In fulminating cases of toxemia of late pregnancy, this is probably the only procedure which promises any relief, and the sooner done the better the chances for recovery. Ordinary cases can be controlled without surgical interference.

The excessively high blood-pressure which precedes the onset of eclamptic seizures should be relieved as much as possible. As the condition is only a temporary one accompanying severe toxemia, and as it disappears automatically post partum, it is rational to believe that a temporary relief during the height of the toxemia might prevent the convulsive seizures. Hygiene, diet, elimination are the best routine aids for the relief of excessively high blood-pressure. Thyroid extract judiciously administered, nitrites, veronal and veratrum viride may be given under proper supervision to aid the other methods.

608 Mount Elliott Avenue.

REFERENCES

1. Ewing, James: Am. Jour. Med. Sc., cxxxix, 828.
2. Ewing, James: Archiv. Quart. Med., November and December, 1908.
3. Williams: Obstetrics.
4. Stone: Am. Gynecology, 1903, viii, 518.
5. Foulkrod: Am. Jour. Med. Sc., 1908, cxxxvi, 541.
6. Ward: Surg., Gynec. and Obst., 1909, vii, 617.
7. Carlson and Jacobson: Proc. Soc. Euper., Med. and Biol., 1909, i.
8. Berkley and Beebe: Jour. Med. Research, 1909, xx, 149.
9. Zweifel: Arch. f. Gynäk., 1904, lxxiii, lxxvi, 536.
10. Dienst: Arch. f. Gynäk., 1908, lxxxvi, 314.
11. Am. Jour. Obst., December, 1911, p. 960.

Hospital for Alpena.—The committee from the Chamber of Commerce having in charge the securing of 100 life memberships in the Alpena Hospital Association, reported at the meeting June 5, that they had secured ninety-five such memberships at $100 each. The enthusiastic report moved five others, without solicitation, to add their names to the list. Everything is now favorable to the early erection of the hospital. The medical profession are preparing themselves for the added responsibilities by studious application to their medical journals, by attending clinical courses as the opportunity offers, and above all by the frequent and enthusiastic medical society meetings.

June Journal Late.—The delay in mailing the June Journal was occasioned by the freight handler's strike in Chicago. The Journals were delivered at the Chicago freight depot June 1, but were not received in Battle Creek until the evening of the 10th.

TREATMENT OF PUERPERAL ECLAMPSIA*

A. LEENHOUTS, M.D.
Holland, Mich.

Any discussion of this topic is always interesting, for though old, it is still ever new. Volumes have been written about eclampsia and yet the last word has not been said. Observation and investigation are constantly bringing out new facts and new theories. Especially is this the case as to its etiology. It is not my purpose in discussing the treatment of this disorder to enter into a detailed narration of the various theories as to its causation, and yet in this, as in other diseases, the treatment is so closely bound up with the etiology that it is impossible to discuss the one without referring to the other. And this is the more especially true in considering the prophylaxis of puerperal convulsions.

In presenting this topic, I propose to give you, in the first place, some observations from my own personal experience; secondly some of the more important recent observations of leading obstetricians; thirdly to make some deductions from these observations that may profit us in the management of these cases, both actual and threatening.

In my practice I have had, all told, eight cases of puerperal eclampsia with convulsions; that means about one in 200 labors, a larger percentage than usually given, viz., one in 350. Of these all but two were primiparæ, age ranging from 18 to 38. Four of my cases I had been able to observe previously to the onset of the active symptoms; the remaining came under my care without any previous observations. Of the eight cases two died, a mortality of 25 per cent.

In three of the cases previously observed, the principal symptom was albuminuria with more or less dropsy; tiredness, headache and nausea with dizziness were also complained of. In the fourth case, previously observed, the principal symptom was a severe headache or migraine, beginning about the sixth month of pregnancy. No albuminuria in this case. Along with the headache were present insomnia, nausea, palpitation and other nervous symptoms.

In the four cases where no observations were made previous to attack of convulsions, there was history of dropsy in one, but no special symptoms or complaints could be elicited in the other three. Subsequent urinalysis revealed presence of albumin in two cases. A history of constipation more or less severe was elicited in four out of the eight cases. This statement of constipation as coming from the patient is often of little value, however, inasmuch as many people have but a vague conception of what constitutes constipation. Aside from these observations pertaining to renal, nervous and digestive functions, the other constant symptom was an accelerated, tense pulse, the rate varying from 90 to 140. This circulatory disturbance was present in each of the cases, both previous to the attack, and much more manifest at the time of the convulsion. In

* Read before the Ottawa County Medical Society, Feb. 13, 1912.

this connection let me state that my observations during the last three years, since I have made more careful examination of expectant cases, lead me to conclude that at least one out of every ten pregnant women present symptoms as above enumerated, pertaining to either the nervous system, the renal function or the digestive, and yet go along to full term without any serious accident or complication. This proves to my mind that the occurrence of eclampsia is due to either a greater virulence on the part of the toxemia, or a greater susceptibility on the part of the patient, and it further proves to my mind that if we are going to avert the serious complications, we shall have to take more pains in the examination and care of our expectant cases.

As to the plan of treatment followed in my cases, I shall give only a brief statement inasmuch as I have nothing new to offer. The prophylactic measures employed in the four cases that came under my observation before the attack were either belated (as in one case of extreme dropsy, I saw the patient only two days before the convulsions set in), or the treatment was not persistently and fainthfully followed up. The measures advised were those I usually employ in cases of albuminuria, or digestive disturbance, viz., free catharsis with milk and vegetable diet.

In the management of the attack in the first two cases I employed chloroform, morphin and expectant treatment, i. e., attempted control of convulsions by narcosis and anesthetic, and waited for Nature to expel the child. One of the two died in convulsion before delivery of the child; in the other the convulsion subsided after the child was born, and the patient recovered.

In my subsequent cases I employed rapid delivery under anesthetic along with veratrum viride in large doses, 30 to 60 minims, repeated in one or two hours; I also induced free catharsis as soon as possible by elaterium one-fourth gr. repeated in from twelve to twenty-four hours. One resulted fatally. In this case delivery was extremely difficult and death was caused by shock probably as much as by the eclampsia. The infant mortality was very high, only one of the eight surviving. In three, however, I am assured the child was dead before attempt of delivery was made.

In reviewing the literature pertaining to the treatment of puerperal eclampsia I find an astonishing divergence of opinions and methods. On the one hand Stroganoff, the great Russian obstetrician, strenuously advises morphin, chloral and chloroform to control the convulsions, and treat the patient expectantly. On the other hand (and in this class we find the majority of observers), rapid delivery is advised, by manual dilatation where that is possible, or by cesarean or vaginal section. There are others, a few in number, who confidently assure us that decapsulation of the kidney is the surest method to rid the system quickly of the toxins and stop the convulsions.

Along general lines they are all agreed that eclampsia is essentially a toxemia of uncertain origin, and that all measures looking toward prevention or cure of the condition must be by eliminating the toxin or preventing its formation in the body. By way of elimination I find that but little stress is laid by the writers on catharsis, while great stress is laid on assisting the renal functions. The majority of these, however, confess the futility of diuretics in improving the action of the kidney. By way of preventing the formation of the toxin the body — that all depends on the position the writer takes as to the etiology, whether faulty general metabolism, placental origin of toxin, insufficiency of thyroid, etc., is taken to

be the determining factor in the production of the toxemia. So that in the mass of literature on this subject we find widely divergent opinions both as to etiology, prophylaxis and treatment, each enthusiast loudly proclaiming his favorite theory, and demonstrating to his own satisfaction that his position is the correct one. Statistics of low mortality are confidently and numerously presented.

In the face of these divergent and rather discordant observations I wish to present for your consideration a few deductions.

In the first place, I believe that pregnancy *per se* is directly responsible for the production of toxins. Whether these have their origin in the placenta, or the liver, or the intestinal tract: or whether they are the result of an increased or altered cell metabolism throughout the body are still open questions; but even casual observation shows that the pregnant state is always accompanied by symptoms more or less profound, that can best be explained by the action of toxins. In the vast majority of cases Nature is abundantly able to cope with these poisons; either because they are not formed in such large quantities, or because they are neutralized by the thyroid, liver or spleen secretions; or because they are efficiently eliminated by the emunctories. If, then, for any reason, the volume of toxins is excessive, or the internal secretions fail to do their duty, or elimination is deficient, deleterious results necessarily follow, amounting to only a slight disturbance, or progressing to the extent of producing a fatal termination.

In the second place, what can we do to insure the safety of our patients or at least to help avert the dangerous complication of eclampsia? Both reason and experience dictate the necessity of ridding the system of the toxemia. To this end four avenues are open.: (1) dietetics, (2) catharsis, (3) diuresis, (4) venesection.

The proper dietary in pregnancy has not been fully determined, and will depend to some extent on the patient. But it is agreed by most writers that a milk diet, either sweet milk or koumiss or buttermilk should be the mainstay during pregnancy, along with vegetables. Salt should be used very sparingly.

The prima via is of all the emunctories the most readily controlled and made use of for purposes of elimination, and under no circumstances should a pregnant woman be allowed to become constipated. Especially if symptoms of toxemia are present should the bowels be kept freely open. Calomel at intervals, the compound cathartic pill, compound licorice powder and the salines cautiously are indicated. The more active purgatives elaterium, jalap and colocynth should be used if symptoms of eclampsia are present or imminent.

Diuresis is a very uncertain and questionable expedient. Digitalis if properly used and carefully guarded is of undoubted value, regulating the heart and blood-pressure, and improving the kidney action where that organ has not been already too severely damaged. At the time of an attack some few authorities are enthusiastic over decapsulation. This operation is, however, out of the question in general practice, unless hospital facilities and skilled surgery are at hand.

Venesection has been employed with apparently good results, and should be resorted to at the time of the attack when the patient is plethoric and presents a livid appearance. This procedure has both reason and experience to support it.

In the third place, if Nature and the efforts we have used to assist her fail to prevent the onset of the eclamptic cata-

clysm, then we must remind ourselves of the essential underlying cause, viz., pregnancy. If this is the main, determining factor in causing the toxemia, reason will dictate that it should be terminated at the earliest moment, and this rational conclusion is borne out by experience. By far the larger number of obstetricians agree that immediate delivery is conducive to the welfare of the patient, and also improves the chances for a living child, if at or near term. The difficulties for rapid delivery, viz., contracted pelvis and rigid cervix, may be such as to greatly increase the danger of the operation. In such cases if skilled surgery and proper facilities are at hand, section, abdominal or vaginal, should be practiced. If these are not at hand, the attendant will have to choose between waiting and the unsatisfactory and mutilating procedure of forcible dilatation and craniotomy. The former is usually taken to be the better practice.

In the fourth place, how are we to know of the impending danger to our patients? Only by a routine, but careful and systematic examination of every confinement case that is entrusted to our care. It is not sufficient to ask the patient or her husband when they come to engage us for the confinement whether she is feeling well and in a general way to inquire after her bowels and kidney action. We must inform ourselves definitely as to the bowel movement and as to the kidney action. Urinalysis should be made in every case and repeated at intervals of two or three weeks. This should also include an estimate of the quantity passed in twenty-four hours. Inquiry must be made into the special senses, especially vision — and the patient instructed to report if at any time visual disturbance arises, or nervous symptoms such as headache, insomnia, extreme tiredness or fidgetiness present themselves.

The one other function that should be most carefully and persistently observed is the pulse. I believe that this, more than any other function, will indicate the presence and progress of a toxemia. An acceleration of pulse-rate is of itself a suspicious symptom. When the pulse-rate ranges persistently above 90, it is safe to assume that the patient is suffering from toxemia, barring pre-existing heart trouble. If in connection with this we find blood-pressure above 130 mm., the diagnosis of toxemia is positive even though no albumin be present in the urine, and the patient is apparently in good health. In the matter of determining blood-pressure, we should not be content with the uncertain finger method. There are now on the market instruments that will quickly and accurately record the blood-pressure, and the method affords data of equal importance with the clinical thermometer and the stethoscope.

By careful examination and observation of our patients after the above plan, we will discover the signs of danger in 95 per cent. of cases, and be in position not only to ward off the more serious incidence of eclampsia, but to guide our patients along through the period of pregnancy in comfort and comparative good health.

NOTE CHANGE OF DATE OF ANNUAL MEETING
TO JULY 10 AND 11, 1912

THE NEWER METHODS OF DIAGNOSIS OF KIDNEY AND BLADDER LESIONS*

G. VAN AMBER BROWN, M.D.
Detroit

Cystoscopy is the ocular inspection of the inner surface of the bladder, accomplished by means of appropriately constructed instruments. Under special conditions the vesical end of the posterior urethra also becomes accessible to inspection. In conjunction with this the urologist can by ureteral catheterization, proper analysis of the segregated urine and further, by aid of the *x*-ray, obtain data pointing very definitely to the character and location of disease of the genito-urinary tract.

It is my purpose at this time simply to go over the technic of such an examination, as followed out in my practice; also to mention, in a cursory way, some of the things shown by such an examination.

One should be familiar with both the direct and indirect methods of cystoscopy. Here, however, only the technic with indirect, corrected image, is described. The general condition of the patient is studied, urinalysis made, and, if time permits, the patient is subjected to several days' preparation, depending on the character of the case. Frequent irrigations of the bladder, with appropriate solutions previous to examination, lessens danger of adding new, or extending old infections and accustoms the patient to instrumentation. Then, too, we learn the capacity of the bladder, one of 100 c.c. being necessary to a satisfactory cystoscopy, one of at least 200 c.c. being desirable. In the meantime special parts have been examined, such as rectum, uterus and adnexa, and also the capacity of the urethra proved. Often a meatotomy must be done. A urethra with a capacity of 22 to 24, French scale, is necessary for use of most cystoscopes. The day preceding the cystoscopy the patient is kept on liquid diet and given 1 or usually 2 ounces of castor oil. All this having been attended to, we are now ready for the cystoscopy which may, in difficult or obscure cases, require to be done several times before a final diagnosis is offered.

With patient in lithotomy position the urethra is washed with a mild, cleansing solution (saturated boric acid or normal saline). Rarely this is followed by a 1 per cent. solution of cocain, to be held in the urethra for five minutes. (A specially devised clamp is used to keep the urethra from expelling the solution). Still more rarely we give, a half hour before beginning the examination, in highly nervous patients or those with sensitive urethras, morphin sulphate, one-eighth or one-fourth grain. If we are dealing with a patient whose urine is clear, he is instructed, several hours beforehand, to refrain from urination, as a clear urine is the best fluid content to use in a cystoscopy. With a cloudy urine present a soft rubber catheter is inserted and the bladder

* Read before the Wayne County Medical Society, April 22, 1912. This paper was illustrated by colored stereopticon pictures, showing different conditions seen at cystoscopy; also a number of x-ray plates showing stones in the kidney and ureter, and ureters being catheterized with styleted catheter.

washed with one of the cleansing solutions mentioned above. When the flow is clear, which is proved by collecting a portion in an ordinary test-tube and holding it to the light, the observation cystoscope, which gives a more general view of the bladder, is now examined to be sure that the lens and prism are clear, showing no specks, and also that the current controller is properly adjusted and the lamp in good condition. Bring the light to a point less than white and just off the red, then turn it off.

The cystoscope is now thoroughly cleansed with green soap and water and washed with alcohol; next glycerin as a lubricant is injected into the urethra (oily substances are not used since they blur the field); then introduce the cystoscope slowly and carefully into the bladder, taking care to make no sudden moves or jerks so as to avoid trauma, causing hemorrhage, which is always an annoying complication and one that often makes a cystoscopy impossible. Now switch the light on, and, with illumination directed upward, the instrument is pushed into the bladder until the air bubble, our first landmark, introduced during catheterization, and always present at the vertex, is seen floating on top of the filling fluid. Now pushing further in, at the same time gently pressing, also rotating the instrument from right to left, we are enabled to explore the upper portion of the bladder wall, which is lemon colored, having minute blood-vessels ramifying over its surface. Now again locate the bubble and slowly withdraw the instrument, still rotating, to observe the lower bladder wall until the sphincter urethra comes into view.

The sphincter as it drops from above into the upper half of the field, if normal appears as a dark red semilunar and sharply circumscribed border. Now, keeping the sphincter in sight, being careful not to withdraw the instrument so far as to press against the sphincter, since, unlike the rest of the bladder, it is highly sensitive to touch, we slowly rotate the instrument to a point where the handle, which, in the beginning, was hanging directly downward, has been raised, equal on a clock face to the minute hand 5 minutes past 12, or 30 degrees from the vertical. Now push very little further into the bladder, and the left ureteral meatus is presented a tiny red slit-like opening on a small mound, also the ureteral ridge, which is paler, running outward and upward from it. From this we still further rotate and follow along a pale white band, the interureteral ligament, and the right ureteral meatus comes into view at a point equivalent to 5 minutes to 12, or 30 degrees from the vertical.

Next we inspect the trigone, the portion lying between these two openings and the ureteral opening. The trigonal tissue is darker in color and more velvety in appearance than the rest of the bladder. It is the most frequent seat for vesical disease. During these manipulations all conditions such as size, shape and transparency of blood-vessels, patent urachus, foreign bodies, growths, character and position of ureteral openings, the prostate, ulcerations, congestions, diverticuli, quantity and force of flow of urine have been noted.

If catheterization of ureters is now desired withdraw the observation cystoscope, and if it is an irritable bladder, but one not too badly diseased, as a normal bladder has little absorbing power, we inject a weak cocain solution to render the bladder quiescent. Introducing the catheterizing cystoscope, which shows a smaller but more highly magnified field, again follow the sphincter as before and locate ureters. This instrument carries the cath-

eters (they are prepared by mechanical cleansing or dry sterilization) in separate chambers, and as they emerge from the sheath near the catheter beak are directed to the ureteral openings by an adjustable tongue or bridge about one-third inch long which supports them and is controlled by a thumb-screw at the proximal end of the cystoscope. For the collection of urine the catheter need be inserted only 3 or 4 inches, distance to be measured by zebra catheter. If the catheter becomes clogged the urinary flow may be established by injecting through the catheter with a hypodermic syringe a small amount of fluid.

If only one ureter can be catheterized, the urine should be collected from that and examined for pus, blood, bacteria, etc.

Should tuberculosis be suspected, but the specific bacillus not demonstrated, a portion is collected in a sterile tube, centrifuged and sediment injected into the peritoneum of a guinea-pig. The most reliable of diagnostic tests are the animal inoculations. A pouting, markedly inflamed meatus, with cloudy urine from the affected side, when tuberculosis has been excluded, is evidence strongly pointing to stone in the ureter near the meatus. The stone may at times be seen protruding partially. The ureteral catheter encounters obstruction in about three-quarters of cases of ureteral stone. About two-thirds of these can be passed by the catheter. When the obstruction is passed there is a sudden flow of urine, the amount depending on the degree of dilatation. The urine here collected and examined chemically and microscopically has its bearings, it being, in presence of stone, dark, smoky and reddish-yellow, containing pus and blood-cells; while with obstruction in tuberculous ulcer, or which occurs in anatomic hydronephrosis, the urine above the obstruction is pale, though cloudy to a varying degree.

If, in passing, the catheter warps or does not go smoothly, it may have become caught in a fold of mucous membrane, when it can be dislodged by injecting a little fluid (olive oil) through the catheter with a hypodermic syringe. After passing this point as in all cases where there is no actual obstruction, no sudden flow of urine is noticed. If stricture of ureter is present there will be, after passing this point, a hugging of the catheter.

Introducing the styleted catheter, using a very pliable wire, ordinary fine fuse wire, or better still, a catheter impregnated with collargol previously injected, and radiographs taken at various angles is a great aid. By using the stereoscope another dimension, that of depth, is gained, so that the distance from the ureteral catheter and the other shadow-casting substances can be quite accurately estimated and the course of the ureter shown. This enables one to exclude concretions in the appendix, phleboliths, calcified areas in the blood-vessels of adjacent tissues, tubercular deposits, scars, feces in the colon, pathologic changes in the uterus and adnexa, and skin tumors, such as warts and nevi. It too may show calcified areas in the ureteral wall or a ureteral calculus that has ruptured through and become encysted into the surrounding structures.

With a marked dilatation of the ureter the catheter may meet with no obstruction since the stone may be playing up and down in the ureter acting as a ball valve. Here the stone might show in the radiograph to be some distance from the catheter. It can be proved to be in the ureter by distending the ureter and pelvis with a collargol solution and radiographing. That this procedure be carried out, there should be a previous radiograph showing

the suspected shadow to be some distance from, but within a centimeter of, the styleted catheter shadow. In case of doubt as to shadow from small, flat, thin, soft stone the injection of gas has been tried and is of much value, since it will show a dark area in contrast to the white area shown by the more dense deposit.

With the catheter in the kidney pelvis its capacity can be proved by the injection of fluid, and by distending the pelvis to its full capacity; pain of a certain clinical character can also be produced. In pyelitis urine may be collected and the specific germ demonstrated. Conditions in the kidney proper that are apt to confuse are single cortical stones, tuberculous lesions, gall-stones and superficial bodies, all of which can be by the cystoscopic data and the aid of the radiograph pretty well diagnostically cleared up. In cases which are difficult to examine, the diagnosis has to be worked up step by step. If we can only get urine from one kidney we should endeavor to do so.

The presence of sugar after the injection of phloridzin shows roughly the secreting capacity of the kidney. After the injection of one-tenth grain of phloridzin sugar appears in the urine in from fifteen to thirty minutes. The healthy kidney secretes about 1 per cent. of sugar, the diseased less, depending on the extent of disease.

Cryoscopy is troublesome and lends no more light than the estimate of urea.

With the electroconductivity of the urine I have had no experience, but believe it to be of no practical value.

Chromocystoscopy is useful if, for any reason, the ureters should not be catheterized, or if on account of badly diseased bladder neither ureter can be located. By injecting 1 dram of 4 per cent. solution of indigocarmin into the buttocks in five minutes the blue urine will flow into the bladder in a good strong stream reaching its height of color in thirty minutes. From the diseased kidney the colored urine appears later, does not reach the same intensity of color and flows more sluggishly. The diagnostic point that can be gained by this very simple test is that, with strong probability, considering the rarity of horse-shoe kidney, we are dealing with two functionating kidneys and the capacity of each may be estimated.

The phenolsulphonephthalein renal test[1] is the latest and probably the best functional test in use. It accurately demonstrates the functional abilities of the kidneys and may be used to differentiate the comparative activity of the two renal bodies when the excretions are separately collected. It is useful both to the surgeon, in pre-operative examinations, and to the general diagnostician. It is remarkable in that 50 per cent. (approximately) of a 6 mg. hypodermic injection given into the lumbar muscles is eliminated in an hour, its elimination beginning in about five minutes. Three hundred c.c. of water should be given the patient half an hour before injection to insure free urinary secretion.

"Phenolsulphonphthalein is better adapted for use as a functional test than any other drug previously employed for the same purpose on account of its early appearance in the urine and the rapidity and completeness of its elimination by the kidney and the reliance to be placed on its findings." "The method of quantitative estimation of the amount of drug excreted is simple and exceedingly accurate." "It is of immense value from a diagnostic and prognostic standpoint in nephritis, inasmuch as it reveals the degree of functional derangement in nephritis whether of the acute or chronic variety." "In the cardiorenal cases so far studied the test has proved of value in determining to what degree renal insufficiency was responsible for the clinical picture presented." The test has proved of value not

1. For the technic of this test see the Arch. Int. Med., March 15, 1912, p. 284.

only in diagnosing uremia from conditions simulating it, but has also successfully indicated that uremia was impending when no clinical evidence of its existence at the time was present." "The test has proved of great value in revealing the true renal condition in cases of urinary obstruction." "It is here of more value than the urinary output, total solids, urea, or total nitrogen, and enables the surgeon to select a time for operation when the kidneys are in their most favorable functional condition." "The improvement in the renal condition in cases of urinary obstruction following the institution of preliminary treatment is strikingly indicated by this test." "In unilateral and bilateral kidney diseases the absolute amount of work done by each kidney as well as the relative proportion can be determined when the urines are obtained separately." (Drs. L. G. Rowntree and J. T. Geraghty).

Finally where cystoscopy has been properly and intelligently conducted, supplemented by the usual functional renal tests and ureteral catheterization and the *x*-ray it will enable us to make an accurate and satisfactory diagnosis. Personally I regard it a crime for any surgeon to perform an operation in obstructive disease of the urinary tract without ascertaining definitely preliminary to the surgical procedure the functional capacity of the kidneys or to do a nephrotomy or nephrectomy until he has determined previously the functional sufficiency of the apparently unaffected kidney.

711 Shurly Building.

THE FLY NUISANCE

Now that the winter has drawn to a close, it will not be long before that disease-bearing pest, the common house fly, will be with us. Now is the time to prepare to fight this common foe. Let us annihilate him this year. Make Detroit a flyless city. Let us remember that "we must get the fly or the fly will get us." . . . There is nothing that the fly likes better than filth and nothing that he detests more than cleanliness. The cleaner your premises, the fewer the flies.

The principal breeding places for the fly are the manure piles, and to some extent the garbage heaps. The latter are certainly fly-feeders, if not so much fly-breeders. . . .

The first step in our fight against the fly is to destroy all breeding places, and, as far as possible, all feeding places of the pest. Unfortunately an amendment to the manure ordinance has not been passed, and so we must do the best we can without a special law covering this subject. The general law forbidding the existence of nuisances will help to control the manure nuisance and whenever such exist they should be reported to the board of health. Each year we have abated one to two thousand such nuisances, but there are many that undoubtedly escape the attention of our inspectors, of whom we have but a limited number.

In spite of all of our efforts, breeding places for flies will exist, and therefore the next step in this campaign is to make those places, if possible, innocuous. Dr. C. F. Hodge, of Clark University, has published a pamphlet, "How You Can Make Your Home, Town or City Flyless." He claims to have made his own premises, consisting of several acres, absolutely flyless, and says what can be done in one locality can be done in another, and if all the people will cooperate, an entire city can be made free of flies. Dr. Hodge accomplishes this by the use of outdoor fly-traps. He fastens the traps to manure boxes and garbage cans and catches the flies after they are bred and before they can escape in the case of manure boxes, and in the case of the garbage cans, he catches millions of flies that are attracted to that favorite feeding place. This plan was tried in Detroit to some extent last year, but it was late in the season and the trial was not a fair one. Let us begin early this year. Dr. Hewitt, a well-known investigator of the fly problem, has said: "A pair of flies beginning operations in April may be progenitors, if all were to live, of 191,100,000,000,000,000,000 flies by August; allowing one-eighth cubic inch to a fly, this number would cover the earth 47 feet deep."—*Bulletin Detroit Board of Health.*

TUBERCULOUS LARYNGITIS*

GUY H. McFALL, M.D.
Detroit

The object of this paper on tuberculous laryngitis is not statistical but rather from the clinical viewpoint — in fact it is a résumé of 368 cases which have come under my observation in the past three years, 20 per cent. of the cases in clinic and hospital.

Tuberculosis of the larynx may be primary or secondary, the latter occurring in the greater majority of cases. It may occur at any age, for among these cases the youngest was 9 years of age and the oldest 75. There are also included three mutes all of them being somewhat advanced in the infection of the larynx, but not exhibiting particularly marked signs of pulmonary infection.

It is now conceded that the mode of infection is most commonly by the lymph- and blood-vessels, or either alone, and most uncommonly by auto-infection, i. e., the sputum passing over a denuded spot in the larynx. This may perhaps also explain why we see so little of primary laryngeal tuberculosis which in fact is seldom found except on the post-mortem table of large foreign clinics — what we sometimes call primary lesions have simply been the deposits from bronchial or cervical glands.

No matter how the bacilli gain entrance, either by lymph- or blood-vessels or by erosion, we find the primary deposits in the submucosa or subepithelial layers usually about blood- or lymphatic-vessels, causing the first step in producing the tubercle; later passing into the stage of infiltration and sometimes ulceration. The changing of an infiltrate to an ulcer is caused by interference of nutrition where tubercles have formed, together with the toxic bodies of the bacilli bringing about caseation which extends to the mucous surface, there breaking through after detaching the epithelial layer and forming an ulcer.

These ulcerations later become infected with various bacteria, causing a more rapid destruction of the mucosa which is mined with small tubercle. If the condition be allowed to progress we then find following it a perichondritis of the epiglottis, arytenoids and cricoid.

Tuberculous infection of the larynx shows a clinical picture of infiltration with varying degrees of swelling due to the location of the deposits and the thickness of the mucosa. At the interarytenoidal sulcus and along the false cords we find marked swelling. Over the arytenoids and crest of the epiglottis where the mucosa is closely adherent to the cartilage we find less swelling and in advanced conditions, perichondritis.

The cartilages most frequently involved are the arytenoids, the epiglottis and cricoid, the arytenoids first because the arytenoidal sulcus seems to be the favorite location for the infection.

The most frequent of the early manifestations of tuberculous infection are those of infiltration of the interarytenoidal

* Read before the Detroit Oto-Laryngological Society, April 17, 1912.

mucosa. This is shown by what appears to be a wrinkling of the surface with round, smooth crests projecting into the laryngeal chamber. The arytenoids are not so sharply defined and the color of the mucous membrane of these parts is that of mild congestion. The vocal cords usually remain white and the voice is clear but occasionally breaks or has weak tones.

A later type when the disease has been progressing for a few weeks shows the arytenoidal sulcus and arytenoids more swollen and having an edematous appearance. The coutour of the cartilages is poorly defined because of the swelling, and the cords may be red and the voice husky. There is a tendency to swelling on one side of the larynx usually along the false cord, which, if the disease is permitted to advance, becomes more swollen and paler in color. Then, too, we will find pointed granulations in the arytenoidal sulcus which may break down and form an ulcer. The surrounding parts appear irritated.

In still further advanced conditions we find the old infiltration appearing anemic, an indication that ulceration will soon begin.

Cases which have advanced to the type where there is severe vocal-cord congestion and considerable swelling of the arytenoids are in danger of complete loss of voice. The cords become congested, and infiltration of their edges has begun which will thicken them to a complete roundness. This combined with the infiltration of the interarytenoidal space causing mechanical interference, changes the voice from a slight huskiness to a complete loss and even though the disease is stopped the voice may never return.

The ulcerative type may destroy so much tissue of the arytenoid, false cord and vocal cord that the act of approximation is impossible. This of course means complete or partial loss of voice.

As to the symptoms the patient complains of, they are those of irritation, tickling in the region of the larynx or to one side of the throat. Clearing the throat and a weakening of the voice are those of the early type. Pain is only found where the cartilages are involved in advanced cases and is not the first symptom as we see so often stated.

A peculiar feature with patients afflicted with tuberculous laryngitis which has advanced to some degree is that they are able to swallow solids but find it almost impossible to take liquids. In the far-advanced ulcerative types we find these poor invalids starving to death because of the absolute inability to partake of food.

The treatment of tuberculous laryngitis should always be that which is given any pulmonary tuberculous case. Fresh air, good food, meeting symptoms as they arise.

For a local application I have found that formalin in from 3 to 5 per cent. fresh solution to be above everything else. The larynx may be first cleaned with some alkaline solution and then a cotton swab saturated with the formalin is rubbed over the surface. The burning sensation which follows is not painful except in greatly advanced cases. This may be helped by cocain being first applied and then the formalin solution.

The throat feels clearer and in many cases the cough is eased when formalin is used, and I have seldom found patients objecting to it. I have seen early cases absolutely clear of any signs of laryngeal trouble within one week, but the general run of cases usually is over a period of weeks and sometimes months. This is not surprising because we must remember the diseased condition of the lung.

The action of formalin on the area involved causes a fibrous encapsulation of the tubercle, walling it off or destroying it

by a slow process of fibrous transformation. As long as these areas remain in a quiet condition no trouble need be feared. If, however, through some medium this protecting wall is broken down, the old focuses will invade new areas and recurrences are as a rule more severe and harder to conquer than primary.

Where there is an irritating cough, due to the lung condition constantly rasping the larynx, good results may be obtained from intratracheal injections of guaiacol, menthol, camphor and eucalyptus with a base of olive oil. From 2 to 5 c.c. may be used.

In concluding I wish to emphasize that laryngeal cases must have special treatment, for no matter how well the lung condition is doing the patient cannot recover when the larynx will not permit the swallowing of food. On the other hand, I have seen cases when the lung condition rapidly advanced, and yet under treatment the laryngeal involvement was held in control. It is not an unusual thing to find a temperature drop of a degree or more in a few days' time, when the larynx has undergone proper treatment. One thing which should always be done is to require of the patient a complete rest of voice. A diseased larynx straining to form sounds will resist treatment.

503 Washington Arcade.

THE OCCLUDED "S"

According to E. W. Scripture, New York (*Journal A. M. A.*, March 9), one of the most frequent defects in speech of the illiterate or the defective is the occluded "s." In making the normal "s" the tongue is pressed against the hard palate rather tightly, but a narrow groove is left in the middle so that a jet of air passes through, and it is this that produces the distinctive sound of "s." A child with the occluded "s" apparently uses "t" and "d" instead of "s" and "z," saying "tun," "toap" and "toup" instead of "sun," "soap" and "soup," and "Liddy" instead of "Lizzy." The occluded "s" may be defined as an "s" made with excessive tongue pressure closing up the narrow channel. Treatment by having the child imitate the "s" of normal speech usually aggravates the defect, as the child is already making too much effort with his tongue. One rarely succeeds in teaching him to relax the tongue directly. The treatment Scripture has used is to place a small stick probe over the middle of the tongue while the patient is saying "s." This makes a groove through which the air escapes with a hissing sound and makes it impossible to produce the "t" sound. After repeated trials the child learns to recognize the "s" and learns how to make it without the use of the stick.

IMPROVED CARBOLFUCHSIN SOLUTION

F. H. Verhoeff, Boston (*Journal A. M. A.*, May 4), says that it is not sufficiently appreciated that carbolfuchsin solution for staining tubercle bacilli should be fresh. He describes a new method of preparation, better than the usual one in that only a single stock solution is required, which is permanent, uniform in action and never afterward requires to be filtered. It furnishes an active staining solution which is made by the simple addition of distilled water. The stock solution is as follows:

Phenol crystals, melted	25 c.c.
Absolute alcohol	50 c.c.
Fuchsin (basic)	2 gm.

Allow to remain over night in an incubator or on a steam radiator to insure complete solution, cool and filter. For use, add 2 drops of this stock solution to 8 drops of distilled water. For spreads of sputum, etc., the dilution may conveniently be made on the slide or cover-slip. When larger quantities of staining solution are required the dilution is made in the proportion of 1 c.c. of the stock solution to 6 c.c. of distilled water. The same method will be found advantageous in preparing other stains containing phenol, notably carbolthionin.

REMUNERATION OF PHYSICIANS

JOHN L. IRWIN, Ph.C., M.D.
Detroit

The twenty years' practice mentioned in my article on this subject published in *The Journal of the American Medical Association* [1] was confined to no particular locality in Detroit, patients often living in extreme limits of the city, and represented financially all classes. Those best able to pay too often were delinquents. There should be some practical remedy for the financial abuses in constant exposure to danger and to death, of the physician — some practical way should be pointed out to close in on the army of deliberate grafters who shorten the physician's life, and medical men should refuse to be longer "done" by them.

Josh Billings advises the young doctor to ignore the disease and treat the patient. Do not our "experienced" and "tactful" M.D.'s who keep up the "bluff" of a large office business — doing but little charging and in some instances causing the sick whom they visit to have one or more of the neighbors call at the office at a particular time to daily report progress — follow such advice? In this and in other ways, such as cases from their free clinics, do they supply their office with "stool pigeons," and flim-flam the laity into thinking they have a large office business and must necessarily be "able" physicians. It is told of one of our physicians, here, of years of practice, who is a good "mixer and joiner," that he regularly gives his many friends "auto-rides" during which he makes fifty or more "stops," leaving the impression of having a "wonderful" practice; and of another surgeon who tells his acquaintances all about his many and "great" operations.

Nor is the average busy physician either fair to himself or to his patient. Instead of scheming to keep his office filled at any cost, he should aim to limit the number of his cases; and thereby give those who do consult him value for the money which they pay him, and at the same time guard his own hours of refreshment and sleep. As physicians we know too well that the follies of youth are promissory notes which begin to fall due about thirty years after date. Just as true is it that an overworked physician will too soon lose his health. Of the prominent Detroit physicians in active practice in 1900 more than 25 per cent. have since died. Medical practitioners are, as a class, more subject to illness than are their fellow men. The combined influence of anxieties which weigh on them in the amount and nature of their work, irregularity of meals and broken sleep, exposure to weather and infection — all these are sufficient to break the strongest constitution; hence they should insist on being first to be paid for their services instead of last, as is too often the case at present.

Is it too much to expect that the day may soon come when the very "busy" man whether he be doctor or lawyer will be passed by for the good reason that he undertakes too much not to neglect those who have a right to receive value from him? It is but natural to expect to be neglected by any doctor or lawyer whom one employs who is doing too much work in each twenty-four hours.

That the "ethical" physicians of reputation themselves are not entirely fair, take for example the matter of their interviews in daily papers and of advertising.

1. March 4, 1911, lvi, 687.

We say that to buy space and advertise in a daily paper is unethical, and yet we allow and too often request newspaper reporters to be present at and take notes in our society meetings, annual clinics and conventions, and receive a free write-up in all the local newspapers — then, by mailing broadcast our reprints of papers read at said meetings we finish the "ethical graft." Are we not less consistent here than he who pays his money to the newspaper for space and whom we designate as a "quack"? Let us then in all our work call a spade a spade, and apply the golden rule. There will then be fewer and better colleges, fewer and better physicians, and best of all, when we are paid for what we do, a chance to make an honest living from what at present is an over-"done" profession.

In every large city there are already city physicians, free dispensaries, college and hospital clinics, for the poor, and it is an economical error for any physician to sacrifice himself in building up an unremunerative practice. He has to neglect his own health and to forego the reading he should do to keep himself up-to-date; and he cannot give the attention to any of his patients that they deserve. Colleges are grinding out physicians faster than they are needed, or can make a living for themselves, as it is. The so-called "busy" doctors make slaves of themselves in most cases to keep up the "show" and are worn out too early in life. From the patients, even those who are able to pay and do not, the doctor only finally receives ingratitude. We must teach our patients that we get our living by our calling and that all must pay promptly except such honest must pay promptly except such honest indigents as we ourselves select to treat free.

We who believe with John S. Billings, M.D., that medicine is not a rigid system of rules and formulas, as it was in ancient Egypt — a fixed creed to which we are to subscribe and from which we must not vary; but a living, growing thing making use of every resource which the progress of science brings, testing all things and holding fast to that which is good — we who believe this should not hesitate to require the just compensation for our labor which will be a fair return for our large financial investment in years of college training, study and experience.

Oliver Wendell Holmes, M.D., said:

"Could Youth but know what Age doth crave
Many's the penny Youth would save."

So with the wise physician: let him not by the poetry or imaginative flight of the "extremist" in medical ethics strive to die for the physical sins of the people, but rather to so regulate his financial affairs that when old age comes on him he will have, then, something with which to meet his needs more substantial than the so-called gratitude of the people whose physical and mental distress and heartache he relieved without money or price.

I suggest that lists of "dead beats" or "deliberate grafters" and "delinquents" be filed with the secretary of every county medical society throughout the country; and that the said lists be revised every three months — same to become a book of reference for use of members. Let us have fewer patients and better fees; those who have not approved credit to pay cash at each house visit or office consultation; statements on good accounts to be rendered monthly; and payment required before the 10th of the month following.

The American, state and county medical societies should at once take up the subject and get a practical remedy, giving our members some return for "annual dues" beyond scientific papers and discussions for the "good of humanity," while too many of our members who depend wholly on their practice for a living are all but "starving to death."

230 Third Avenue.

The Journal of the
Michigan State Medical Society
Published under direction of the Council.

PUBLICATION COMMITTEE:
A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
W. J. DuBOIS, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek.
(Ex-Officio)

EDITOR.
WILFRID HAUGHEY, Battle Creek.

EDITORIAL COLLABORATORS:
J. V. White, Detroit, 1st District.
George R. Pray, Jackson, 2d District.
....., 3d District.
C. E. Boys, Kalamazoo, 4th District.
T. De Witt Gordon, Grand Rapids, 5th District.
C. B. Burr, Flint, 6th District.
Daniel Conboy, Bad Axe, 7th District.
B. B. Rowe, Saginaw, 8th District.
Robert E. Wells, Traverse City, 9th District.
F. E. Ruggles, Bay City, 10th District.
V. A. Chapman, Muskegon, 11th District.
E. H. Webster, Sault Ste. Marie, 12th District.
C. M. Williams, Alpena, 13th District.
Reuben Peterson, Ann Arbor, 14th District.

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A.M., M.D., Editor, 24 West Main Street, Battle Creek, Mich.
The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

Subscription Price $2.00 per Year, in Advance.

JULY

EDITORIAL

Members sued or threatened should communicate at once with the chairman of the Medico-Legal committee, SUGGESTING but not RETAINING a local attorney. Power to engage local attorneys rests entirely with our general attorneys. Complications have arisen in several cases, and considerable trouble and unnecessary expense followed, because members have not observed this rule.

MEDICAL DEFENSE

The question of medical defense and its successful adoption by the state medical societies was thoroughly discussed at the annual meeting of the Association of State Secretaries and Editors at Atlantic City during the meeting of the American Medical Association. Every state which had adopted this work reported success. Only one state reported serious financial difficulties in the work. Not a single state was in favor of discontinuing the work.

In Michigan our defense plan has been in general operation two and a half years. We have defended a number of suits in court, and successfully. We have one suit which had been argued before the supreme court, but no verdict yet rendered. The expense has been small compared with the defense given. Every member of our society while in good standing is entitled to defense for civil malpractice under the rules of the Medico-Legal Committee. The rules of this committee require that in case of a suit or a threat the chairman of this committee be notified. The member may suggest a local attorney but not retain such attorney, as only our general attorneys have that power. If members do retain local attorneys, they place needless expense on the society, for our general attorneys are able to make better terms.

FORTY-SEVENTH ANNUAL MEETING

The Muskegon meeting of the Michigan State Medical Society, to be held July 10 and 11, should be a most valuable and most important meeting. The section officers have made unusual efforts to give us a good program. There will be several speakers from out of the state, and a goodly number of well-known speakers from among our numbers. The program of the Gynecological Section deserves especial mention, and should attract a large attendance.

The new Section on Ophthalmology and Oto-Laryngology will meet for the first time this year. The program is an attractive one, containing the names of some of the strongest men in the state in this specialty, as well as one of the recognized leaders in the nation. Heretofore the

work in this department of medicine has been crowded into the surgical section to the disadvantage both of the surgeon and the specialist. This is an excellent opportunity for the specialists to advance the knowledge of their branch, as it has never advanced before in Michigan.

The programs of all of the sections are good and our hosts in Muskegon will be disappointed if we do not have six or seven hundred in attendance.

The social program has not yet been fully announced but will be well worth the effort, and every one who visits Muskegon this year will carry away with him many ideas of great value, both to himself and his clientele.

A NEW DEPARTMENT

In the early years of the reorganization of the Michigan State Medical Society, our society memorialized the American Medical Association, requesting the appointment of a clearing house which could pass on the many specialties and new remedies proposed for the use of physicians, as well as on many which were being used, but were not worthy of use.

Michigan had a prominent part in the agitation which led to the formation of the Council on Pharmacy and Chemistry. Michigan should be one of the foremost states in the upholding and furthering of the work of this Council. For some time past we have been conducting a department in The Journal on New and Non-official Remedies, in which has been listed the new remedies approved by the Council.

With this number we began the publication of a department, the Truth about Medicines, in which will appear abstracts giving information about frauds, patent medicines, fraudulent preparations, newer discoveries, and other matters in the field of pharmacology and therapeutics.

The work of examining and approving the mass of new remedies and specialties on the market for our use is one of vast importance. These remedies, of course, have been examined before they are placed on the market, but they were examined by parties more or less interested in their promotion. The Council on Pharmacy and Chemistry examines such remedies as are submitted to it, and certain others, in a non-partisan manner. These remedies are tested according to definite rules adopted by the Council. This examination is by our own pharmacologists and by our own clinicians, and if of definite merit, and complying with the rules of the Council, regarding origin, advertising, etc., the remedies are accepted.

There are sufficient remedies in the Pharmacopeia and the National Formulary for the use of the average physician in most any complication which may arise, but many newer and more esthetic preparations are being placed on the market. The Council has passed on hundreds of these, and every month announces more. It would seem as though the medical profession could afford to await the report of the Council on any new preparation before adopting this preparation. This would be supporting the Council loyally. In view of the remarkable work so far accomplished, it would seem that this support is warranted, especially when we consider that the Council is equipped to make an examination, both chemically, microscopically and clinically to so much better advantage than most any busy practitioner.

ETHICS

VII. PUBLIC HEALTH CONSERVATION

For a generation the medical profession and the American Medical Association have been laboring with the national government in an attempt to have this great nation of ours give to our citizens, our

babies and our sick some small measure of the care given to our livestock — hogs, cattle, etc. Senator Owen of Oklahoma recently has been our champion. The principles advocated in the Owen bill are those advocated by the medical profession of all ages. No one will deny the desirability or advisability of federating under one strong head the various public health agencies of our national government. The present bill, as amended, does not give this new department a seat in the president's cabinet as it undoubtedly should, but does bring the various public health agencies under a common head, and not distributed through the Treasury Department, the Department of Commerce and Labor, and the Department of Agriculture as at present.

The opponents of this bill have been actively working for its defeat. The League for Medical Freedom sprang up over night and started an advertising campaign costing thousands of dollars. They claim to be altruistic men working for the good of humanity — but where do they get their money? Their board of directors includes men who are or have been patent medicine men. They have formed a branch league in Michigan with a prominent Detroit business man as president. They have formed branch leagues in many of the cities in the state, and the members of these leagues have been sending telegrams by the hundreds, and letters literally by the thousands to representatives and senators in Washington, condemning and opposing the Owen bill.

The medical profession has advocated the principles contained in this bill so persistently, and for so many years, that we cannot now sit quietly by and see our bill defeated, when it has the best chance it ever had for passage.

Agitation has been intense, and if we make a concerted effort, every member of the profession helping, we can so flood our representatives and especially our senators with the true public opinion of our state that they will necessarily support our measure if they desire to return to office. There are few more important questions for our public men to consider than the matter of conservation of public health. Those who fail to support such measures are not worthy of representing our people in the halls of Congress.

The medical profession in this as in all other ages has a duty to the public. It is part and parcel of our training as it is our privilege to minister to suffering humanity, but it is even more our privilege and our duty to alleviate human suffering by preventing it. No better way offers to fulfil this mission than by securing an efficient public health service.

PURE FOOD

Our national pure food bill is in a bad way. Its staunchest advocate, Dr. Wiley, has resigned. The bill had been interpreted by the supreme court of the United States in a way which materially weakens it. It is now being enforced largely by the very men who were most active in discrediting Dr. Wiley. It may be necessary for the various states to adopt pure food bills in order to assure their citizens the protection which we supposed was guaranteed by our national bill. The state of Indiana has a very effective pure food law which positively prohibits the manufacture or sale within the state of foods containing chemical preservatives. Is not Michigan entitled to just as effective a pure food law as Indiana, or any other state?

One great danger in the use of chemical preservatives is the possibility afforded of using inferior materials in the prepa-

ration of foods. When the use of chemical preservatives is prohibited, these inferior materials cannot be used. If the medical men of Michigan are interested in this subject this year, something should be done at the coming meeting in Muskegon, for the state legislature will meet next January and not again in regular session for two years. Furthermore, if we desire any such legislation we must begin work on the candidates for the legislature early, and secure pledges from them. Our State Medical Society is a considerable over 2,000 strong, and not a one of us but has some influence on voters in our respective districts. By exercising this influence, we should be able to secure some needy legislation, especially regarding pure foods.

MEDICAL MILK COMMISSIONS

Under the law passed last year the State Board of Health has appointed several medical milk commissions throughout the state. The passage of this law was to make possible the production of milk which could be honestly and properly recommended for use in infant feeding.

THE TRUTH ABOUT MEDICINES

It is the purpose of this department to encourage honesty in medicines, to expose frauds and to promote rational therapeutics. It will present information regarding the composition, quality and value of medicaments, particularly as this is brought out in the reports of the Council on Pharmacy and Chemistry and of the Chemical Laboratory of the American Medical Association.

Therapeutic Research.—Torald Sollmann, Chairman of the Committee on Therapeutic Research of the Council on Pharmacy and Chemistry, discusses the need of more exact knowledge regarding the action of drugs. He outlines the plans whereby the Council hopes to aid therapeutic research. The following are some of the problems now being investigated: The clinical value of cardiovascular drugs, Relative efficiency and toleration of natural and synthetic salicylates, Duration of action and absorption of digitalis bodies, Efficiency of intestinal antiseptics, Therapeutics of phosphorus compounds, Standardization of antiseptics and germicides, Pharmacology of commercial vanadium preparations, Effects of origin and impurities on toxicity of chloroform, and Fate, efficiency and side actions of organic iodids (*Jour. A. M. A.*, May 4, 1912, p. 1390).

The Ramifications of Quackery.—Last November many physicians received a request from a physician in central New York for the names of those afflicted with locomotor ataxia. Decoy letters brought replies containing testimonials relative to a "wonderful" serum treatment for locomotor ataxia by a Dr. C. H. Burton of Detroit, Mich. Burton was formerly associated with "Drs. Mixer" whose cancer-cure fake was made the subject of a fraud order as well as a prosecution under the Food and Drugs Act. In a Postoffice investigation, relative to the Mixer fraud order, Mixer's congressional sympathizers appeared to be willing to accept the testimony of Burton to the effect that Mixer's nostrum would cure cancer despite the contrary testimony of Anders of Philadelphia, Carl Beck of New York, Deaver of Philadelphia, Kelly of Baltimore, Mayo of Rochester, Murphy of Chicago, Osborne of New Haven, and many other equally well-known physicians and surgeons (*Jour. A. M. A.*, May 18, 1912, p. 1517).

Winslow's Soothing Syrup.—While in this country the morphin content of medicines must be declared on the label in England such labels contain the additional warning of "Poison." This requirement evidently decreased the sale of Winslow's Soothing Syrup in England and the product now sold there contains no morphin, potassium bromid having been substituted for the opiate as shown by analysis: potassium bromid, 2.0 per cent.; alcohol, 4.3 per cent. by measure; essential oil (anise)

about 0.1 per cent. and sugar, 56.5 per cent. (*Jour. A. M. A.*, May 18, 1912, p. 1524).

Sal Hepatica.—According to the *Druggists Circular* the composition is: sodium chlorid, 13.05 parts; sodium sulphate, 26.27 parts; sodium phosphate, 29.80 parts; sodium bicarbonate, 18.0 parts; lithium phosphate, 0.04 parts; citric acid and tartaric acid, to make 100 parts (*Jour. A. M. A.*, May 18, 1912, p. 1527).

Politics and Quackery.—The community of interest between certain politicians and quacks is evidenced in the appointment of a congressional committee to investigate the fraud order issued against the cancer cure concern conducted under the name of Drs. Mixer. The evident purpose of this committee is to whitewash C. W. Mixer of Hastings, Mich., who conducts the cancer cure concern. As a further illustration of the community of interest, C. W. Mixer is advising his prospective Chicago victims that he has been appointed assistant sergeant-at-arms to the coming Republican National Convention (*Jour. A. M. A.*, June 15, 1912, p. 1862).

Sargol.—Next to the widely-advertised nostrums on the market for the cure of obesity, there are probably no bigger humbugs extant than the preparations sold as "flesh builders." Some of the latter class of fakes are alleged to be local in their action—to build up the bust but to have no effect on the rest of the body. Still others, of which Sargol is one, are sold as general "flesh builders." Sargol, which if we believe the advertisements, "makes puny, peevish people plump and popular," is sold by the Sargol Co., of Binghamton, N. Y. The stuff is advertised on both sides of the Atlantic. It was recently analyzed by the chemists of the British Medical Association who reported: Sugar, 18.0 per cent.; insoluble protein (coagulated albumin ?), 10.8 per cent.; sodium and potassium hypophosphites, 7.7 per cent.; albumin (soluble), 4.2 per cent.; lecithin, 1.9 per cent.; zinc phosphid, 0.7 per cent., talc, kaolin, moisture, etc. The British chemists estimated that the cost of the materials for thirty of these worthless tablets was about 2½ cents; they are sold for $1.00 (*Jour. A. M. A.*, June 8, 1912, p. 1770).

Hyomei.—Hyomei is "guaranteed to cure catarrh, coughs, asthma, colds, croup and sore throat." It is also said to cure "all breathing troubles including early consumption." Hyomei is an oily liquid, a few drops of which are applied to a piece of gauze and the gauze placed in a hard rubber "inhaler" which is sold with the nostrum. The chemists of the British Medical Association analyzed this humbug and reported that it had essentially the following composition: Oil of eucalyptus, 80 per cent.; alcohol, 10 per cent.; liquid paraffin, 10 per cent.; and creosote apparently a trace (*Jour. A. M. A.*, June 8, 1912, p. 1769).

Ascatco.—Ascatco is sold as an asthma cure. The company selling it used to go under the name of the Austrian Laboratory, New York City, and the stuff itself was sold as an Austrian product. It is not an Austrian product. The company is now known as the Ascatco Laboratory and the advertising matter carefully omits the previous claims of Ascatco being an Austrian product. A cursory examination made in the Association's Laboratory, disclosed benzoic acid apparently in combination with potassium; this, of course, in addition to the opium it contained. Ascatco also contains 13 per cent. alcohol. The amount of opium is gradually diminishing. Two or three years ago the labels declared the presence of 3.42 grains of opium to the ounce, later the presence of but two grains to the ounce was admitted while some of the specimens recently purchased declare a still smaller opium content. The claims made for Ascatco that it "is non-injurious to the system," that it "leaves no after ill-effects," and further, that it "acts only on the respiratory organs," are three clear cut and unequivocal falsehoods. In fact, Ascatco is one of the most impudent frauds of its class (*Jour. A. M. A.*, June 8, 1912, p. 1769).

Pantopon Detoxicated.—Pantopon is said to consist of the hydrochlorides of the several alkaloids naturally occurring in opium. Containing 50 per cent. of morphin it has the disadvantages of morphin though this seems to have been largely overlooked by those who write in favor of it. H. Winternitz having found that in a case of tabetic crisis the morphin in Pantopon produced the same dangerous depression of the respiration as morphin when it was not in Pantopon got the manufacturers to demorphinize Pantopon. This new proprietary, which may be likened to the play of Hamlet with Hamlet left out, is called "Opon," the name being derived from Pantopon by cutting off the "pant" (*Jour. A. M. A.*, May 11, 1912, p. 1461).

The Composition of Nostrums.—Incidental to the prosecutions under the Food and Drugs Act the Federal Government is making known the composition of nostrums: St. James Society Drug Cure is sent out in a series of bottles labeled 1 to 10 which contain a mixture of morphin and alcohol. Gauvin's Aniseed Syrup, a "baby-killer," was found to be a watery-alcoholic solution of morphin acetate sweetened with sugar and flavored with oil of anise. Brant's Soothing Balm was found to consist of camphor and oleoresin of capsicum dissolved in alcohol and containing a trace of sassafras oil and water. Tilden's Febrisol, The Tilden Company, New Lebanon, N. Y., a proprietary nostrum exploited to physicians, was found to contain, besides certain unidentified drugs: alcohol, glycerin, acetanilid, acetphenetidin, caffein and salol (*Jour. A. M. A.*, May 11, 1912, p. 1461).

Effect of Hydrolysis on Germicidal Action.—Fuchsin acetate has germicidal properties while fuchsin sulphate and fuchsin chloride are devoid of germicidal effects. This is probably because fuchsin acetate is decomposed by water (hydrolyzed) to yield the base fuchsin while the sulphate and chlorid are not so decomposed. In this way decomposition by water (hydrolysis) is responsible for the germicidal power of fuchsin in fuchsin acetate, commonly called "basic fuchsin" (*Jour. A. M. A.*, May 11, 1912, p. 1465).

Swamp Root, the Fraud Above the Law.—Analysis by the government chemists showed Kilmer's Swamp Root to be a syrupy liquid containing 8.55 per cent. alcohol by volume and 43.3 per cent. total solids including 42.6 per cent. sugars with a small amount of an aromatic balsam and a laxative principle. There was also present wintergreen, juniper and cardamon. Samuel Hopkins Adams in *Collier's Weekly* exposes the worthlessness of and the false claims made for this nostrum and discusses the means whereby it has gained immunity from prosecution. In conclusion it is emphasized that Swamp Root will not and cannot cure kidney, liver or bladder disease as claimed; that used in such diseases, it will often be harmful; and that it may sometimes even kill. It is suggested that the way to end Swamp Root's career of fraud is to spread understanding of what it really is: a compound of false promises and harmful drugs, protected by political pull, and backed up by a conscienceless newspaper; in all the realm of medical knavery, the most dangerous and law-destroying combination extant—the copartnership of quackery, blood-money, and fraud-nurtured journalism. (*Jour. A. M. A.*, May 25, 1912, p. 1616).

The Sarsaparilla Absurdity.—Sarsaparilla is an almost universal constituent of "blood purifiers" (whatever that may mean). Preparations of it are also official in our Pharmacopeia. The fact that the drug is almost never used alone, but is almost always combined with something more active such as potassium iodid, shows that no one places any dependence on it. The Pharmacopeia should be purged of sarsaparilla and its preparations, if it is to continue to enjoy its own self-respect (*Jour. A. M. A.*, May 4, 1912, p. 1356).

The Value of Germicides and Disinfectants.—J. F. Anderson and T. B. McClintic have worked out a method for the standardization of germicides and disinfectants. They determined the effect of disinfectants on the typhoid bacillus as compared with the effect of phenol. The coefficient of a disinfectant may, for practical purposes, be defined as the figure that represents the ratio of the germicidal power of the disinfectant to the germicidal power of carbolic acid (phenol) the latter being taken as unity, both having been tested under the same conditions. The efficiency of disinfectants being variously affected by organic matter, the phenol coefficient is determined both in the presence and in the absence of organic matter. As illustrations of their findings the following results are given, the coefficient found when organic matter was absent being given first and that found in the presence of organic matter being given second and in parentheses: Benetol, 1.23 (.92); Cabot's sulpho-naphthol, 3.87 (2.33); Creolin-Pearson, 3.25 (2.52); Kreso, 3.92 (2.32); Liquor cresolis compositus, U. S. P., 3.00 (1.87); Lysol, 2.12 (1.57), and Trikresol, 2.62 (2.50). Dioxygen, Listerine, Phenol sodique and Platt's chlorids had no determinable coefficient. (U. S. Public Health and Marine-Hospital Service, Hygienic Laboratory Bulletin No. 82).

PROGRAM OF THE FORTY-SEVENTH ANNUAL MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY TO BE HELD IN MUSKEGON, JULY 10-11, 1912

MEETING PLACES

The General Session, House of Delegates and all the Sections well meet in the High School building, Muskegon.

County Secretaries and first meeting of Council, New Occidental Hotel.

THE COUNCIL

Chairman, W. T. Dodge, Big Rapids.
Secretary, W. H. Haughey, Battle Creek.

Meetings

Tuesday, July 9, 8 P. M.
Wednesday, July 10, 12 M.
Thursday, July 11, 12 M.

HOUSE OF DELEGATES

Convention Hall, High School Building
President—D. Emmett Welsh, Grand Rapids.
Secretary—Wilfrid Haughey, Battle Creek.

By-Laws—Chapter IV, Section 1. Each Component County Society shall be entitled to send to the House of Delegates each year one delegate and one alternate for every 50 members, and one for each major fraction thereof; but each County Society holding a charter from this Society, which has made its annual report as provided in this Constitution and By-Laws, shall be entitled to one delegate and one alternate.

First Session, Wednesday, July 10th
8:00 A. M.

1. Call to order by the President.
2. Report of Committee on Credentials.
3. Roll Call.
4. Reading of minutes of the last Annual Meeting.
5. Report of Committee on Arrangements.
   J. F. Denslow, Muskegon, Chairman.
6. Report of the Council.
   W. T. Dodge, Big Rapids, Chairman.
7. Report of Committee on Legislation and Public Policy and on the work of the National Legislative Council.
   E. T. Abrams, Dollar Bay, Chairman.
8. Report of Committee on Memorial.
   F. C. Warnshuis, Gd. Rapids, Chairman.
9. Report of Committee on Fee Splitting.
   C. B. Stockwell, Port Huron, Chairman.
10. Report of Committee on Public Health Education.
    F. A. Rutherford, Gd. Rapids, Chairman.
11. Report of the Committee on the Study and Prevention of Tuberculosis.
    C. H. Johnston, Gd. Rapids, Chairman.
12. Report of Committee to Encourage the Systematic Examination of the Eyes and Ears of School Children throughout the State.
    Walter R. Parker, Detroit, Chairman.
13. Report of Committee on Medical Education.
    David Inglis, Detroit, Chairman.
14. Report of Committee on Venereal Prophylaxis.
    A. P. Biddle, Detroit, Chairman.
15. Report of Delegates to the A. M. A.
16. Miscellaneous Business.
    (a) Election of Committee on Nominations to nominate:
    1st, 2nd, 3d and 4th Vice-Presidents.
    Three Representatives and three Alternates to the House of Delegates, A. M. A., to succeed Delegates F. W. Robbins and R. R. Smith, and Alternates V. A. Chapman and C. G. Darling, and to fill the place given Michigan by the new apportionment.
    To fix place of meeting for 1913.
    By-Laws—Chapter VI, Sec. 2. "The House of Delegates shall elect annually, at its first meeting, a Nominating Committee of five from the House of Delegates, no two of whom shall be from the same Councilor District."
    (b) Appointment of Business Committee and other Working Committees.
    (c) Other Miscellaneous Business.
    Recommendations of Council.
    Proposal of Amendments to Constitution and By-Laws.

Adjournment to General Meeting, 10 A. M.

Second Session, Thursday, July 11th

8:00 A. M.

1. Roll Call.
2. Reading of the Minutes of the Previous Session.
3. Report of Committee on Nominations.
4. Election of Officers.
5. Report of Business Committee.
6. Unfinished Business (Consideration of Committee Reports).
7. Miscellaneous Business.

Adjournment, to Section Meetings.

GENERAL MEETING

Convention Hall, High School Building
President—D. Emmett Welsh, Grand Rapids.
Secretary—Wilfrid Haughey, Battle Creek.

First Day, Wednesday, July 10th

10:00 A. M.

1. Call to order by the President.
2. Prayer.
3. Address of Welcome.
   For City—Mayor.
   For Muskegon-Oceana County Medical Society—Geo. S. Williams.
4. Report from the House of Delegates.
   Wilfrid Haughey, Battle Creek, Secretary.
5. Address of the President.
   D. Emmett Welsh, Grand Rapids.
6. Address. Recent Advances in Plastic Surgery of the Bones.
   John B. Roberts, Philadelphia.
7. Miscellaneous Business. Under this head there will be a general discussion of questions on medical economics. This opportunity is given to any member who wishes to bring before the entire Society any subject of general interest, either by informal discussion, or by formal resolutions.
8. Nominations for President, 1912-1913.

Adjournment.

Wednesday Evening

5:30 P. M.

Demonstration of *x*-ray moving pictures of the stomach. J. T. Case; Battle Creek.

Second Day, Thursday, July 11th

11:30 A. M.

1. Reading of Minutes.
2. Unfinished Business.
3. Report from the House of Delegates.
   Wilfrid Haughey, Battle Creek, Secretary.
4. Miscellaneous Business. Another opportunity to bring to the attention of the general body any questions of general interest.
5. Announcement by the Committee on Nominations of the result of the ballot for President.
6. Introduction and Installation of President-elect.

Adjournment sine die

SECTION MEETINGS

By-Laws—Chapter III, Sec. 3. Except by special vote the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed. No paper shall be read by title nor read by any other person than its author except as a result of sickness of author, or by unanimous vote of the Section to which it belongs.

Sec. 4. No address or paper before the Society, except that of the President, shall occupy more than fifteen minutes in its delivery; and no member shall speak longer than five minutes or more than once on any subject.

Sec. 5. All papers read before the Society shall be its property. Each paper read shall be deposited immediately with the Secretary.

SECTION ON GENERAL MEDICINE

Chairman—Guy L. Connor, Detroit.
Secretary—David J. Levy, Detroit.
(The Secretary of the Section will collect all papers as soon as read.)

First Session, Wednesday, July 10th

1:45 P. M.

1. Chairman's Address.
   Guy L. Connor, Detroit
2. The Effect of the Digitalis Series on the Various Forms of Cardiac Disease.
   Hugo A. Freund, Detroit.

This paper embraces the action of preparations of the digitalis series on clinical cases of incompensated valvular disease; on hearts suffering from the effects of hypertension and on the various forms of cardiac arhythmia.

The work is controlled, firstly, by clinical observation; and secondly, by the instrumental investigation afforded by sphygmographic, sphygmomanometric, radiographic and electrocardiographic methods.

The action of digitalis on the normal clinical subject will also be demonstrated, and comparisons will be made between this and the action of the series on pathological hearts.

3. Acute Heart Failure.

EUGENE BOISE, Grand Rapids.

Dilatation from acute overstrain. Heart failure at the height of acute infectious diseases. Possible incorrectness of present ideas as to pathology. Discussion of condition from standpoint of toxemic shock.

4. The Diagnosis and Treatment of Paroxysmal Tachycardia.

HERBERT M. RICH, Detroit.

Definition. Absolute distinction from other tachycardias has never been produced experimentally. Pathology. Author's attempt to explain mechanism of an attack used as a basis for treatment in which direct pressure is brought to bear on the base of the heart. Report of two cases.

5. Disturbances of the Motor Function of the Stomach.

B. A. SHEPARD, Kalamazoo.

The development of the gastro-intestinal tract and its appendages, with its significance in certain pathologic conditions. The importance of the motor functions of the various parts of the stomach. Motor disturbances, their etiology and frequency as found in general practice. Symptoms, diagnosis and treatment.

6. Cirrhosis of the Liver.

I. M. J. HOTVEDT, Muskegon.

7. A New Procedure in the Treatment of Ascites.

W. J. WILSON, JR., Detroit.

The various causes of abdominal ascites; treatment of ascites—hygienic and dietetic; drug treatment; operative treatment—transplantation of veins, establishment of collateral circulation by means of adhesions, drainage into subcutaneous tissues, permanent drainage externally. Reports of cases.

Second Session, Thursday, July 11th

9 to 11:30 A. M.

1. Pneumonia.

W. L. GRIFFITH, Shelby.

2. Displacements of the Kidney and Colon.

H. W. LONGYEAR, Detroit.

Cases of nephroptosis; whether operation be performed or not, properly the cases of the physician and not the surgeon. Knowledge of etiology and pathology essential to proper treatment. Influence of nephrocolic ligament and colon on nephroptosis. Much of symptomatology in non-traumatic cases due to coloptosis. Proper designation of condition: Nephrocoloptosis. Recognition of condition eliminates false diagnosis of neurasthenia, malnutrition, intestinal toxemia, colitis, chronic appendicitis, etc. Dietl's crisis. Coloptosis as cause of chronic colitis and adhesions of prolapsed colon as cause of obscure and distressing symptoms. Value of *x*-ray in diagnosis.

Treatment. Prophylactic treatment should be begun early in predisposed individuals. Medical treatment small in scope but valuable. Mechanical treatment of great importance and simple of application. Surgical treatment: nephropexy, liberation of adhesions when indicated. Surgery not always necessary for immediate betterment, but very necessary to ensure ultimate therapeutic results.

3 The Phenolsuphonephthalein Test in Renal Insufficiency.

L. F. WARREN, Ann Arbor.

4. The Heat Factor in the Alimentary Disturbances of Infancy.

J. H. CROSBY, Plainwell.

It is important to determine the etiologic factors of the summer diarrheas of infancy. Bacteriology alone has failed to reduce the mortality from this cause materially. Statistics show that the mortality is in the hottest days and weeks of summer and in the hottest parts of a city and in the hottest houses. Death from summer diarrhea really is due to heat stasis or heart-stroke. Necessity of providing parks and playgrounds for the welfare of children.

5. The Relation of Convulsions in Children to Dietary Errors.

J. B. JACKSON, Kalamazoo.

Nature of convulsions. Etiologic factors. The part improper feeding has in etiology. Common errors in child's diet. Responsibility of physician in proper feeding.

Third Session, Thursday, July 11th

1:45 P. M.

Election of Chairman for 1913.

1. Tuberculosis in Children.

C. H. JOHNSTON, Grand Rapids.

2. What is "Epilepsy"?

C. D. CAMP, Ann Arbor.

What is meant by the term epilepsy? Need of a definition which shall be concise and yet include all types and a recognition of these types as varying manifestations of the same diseases. Sociologic importance. Theories as to etiology of the morbid condition; their bearing on prognosis and treatment.

3. The Diagnosis of Traumatic Hysteria.

H. B. KNAPP, Ionia.

The severer form of hysteria with paralyses; contractures and anesthesias a comparatively rare disease. There is danger of mistaking some of the forms of hysteria for simulation or fraud, especially in so-called "litigation hysteria."

Trauma without an organic lesion often acts in a suggestive way to produce hysteria. Electricity in high voltage is a potent agent in producing hys-

teria, even though there is no burn or other lesion at the point of contact.

Detailed report of a case involving as alleged electrical injury followed by hemiplegia, anesthesia, hyperesthesia, contractures, etc., of over two years' standing.

4. Aphasia.

Charles W. Hitchcock, Detroit.

A general consideration of the subject and its importance.

Older and later views and some of the more modern contentions.

Its varieties and relations to the apoplexies.

A study of some cases, the histories of which are given.

5. Roentgen Examination of the Gastro-Intestinal Tract.

P. M. Hickey, Detroit.

Physical laws involved in the examination.
Special technic.
Foreign bodies in the esophagus and stomach.
Diverticulum of the esophagus.
Malignant stricture of the esophagus.
Cardiospasm.
Demonstrations of the size, shape and position of the stomach.
Remarks on the examination of the pylorus and first part of the duodenum.
Examination of the colon and sigmoid.
Résumé.

SECTION ON SURGERY

Chairman—C. D. Brooks, Detroit.

Secretary—R. C. Stone, Battle Creek.

(The Secretary of the Section will collect all papers as soon as read.)

First Session, Wednesday, July 10th
1:45 P. M.

1. Chairman's Address.

C. D. Brooks, Detroit.

2. Operative Treatment of Fractures.

Geo. Palmerlee, Detroit.

3. Enterostomy and Enterotomy as Life Saving Procedures.

Channing W. Barrett, Chicago.

4. Subject to be announced.

P. M. Hickey, Detroit.

5. Ionization in the Treatment of Superficial Epitheliomas.

Jeanne Solis, Ann Arbor.

1. The principles of ionic medication.
2. The principles of destructive ionization.
3. The indications for destructive ionization.
4. The advantages of the employment of destructive ionization.
5. The results of treatment by ionization.

Second Session, Thursday, July 11th
9:00 to 11:30 A. M.

1. Hyperplastic Tuberculosis.

Alexander W. Blain, Detroit.

2. Chronic Diarrhea as a Surgical Symptom.

Louis J. Hirschmann, Detroit.

3. Cancer of the Rectum.

J. A. MacMillan, Detroit.

Clinical varieties depending on location. Symptoms (early) and diagnosis. Treatment. When to operate. When not to operate. Radical and palliative operations.

4. The Management of Gonorrheal Arthritis.

Major F. M. Hartsock and Lieut. J. L. Robinson, Fort Wayne, Mich.

Third Session, Thursday, July 11th
1:45 p. m.

Election of Chairman for 1913.

1. Gall-Bladder Operations.

F. B. Marshall, Muskegon.

1. Indications.
2. Technic.
3. Postoperative treatment.
4. End-results.

2. Acquired Malformations of the Stomach.

R. E. Balch, Kalamazoo.

Causes, acute and chronic. Types. Simple dilatation. Dilatation with prolapse. Distortion due to growths within the stomach wall. Distortion due to growths in neighboring organs. Distortion due to bands of adhesions. Distortion due to extensive scar formation. Treatment. Prognosis. Illustrated by lantern slides.

3. Cause and Treatment of Lumbago and Sciatica.

Frederick C. Kidner, Detroit.

Definition of terms. Symptoms not diseases. Deformities and displacements of the lower spine. Bad posture. Bone disease. Treatment by fixation, by correction and by muscular development.

4. Traumatic Myxosarcoma of the Knee Simulating Tuberculosis of the Joint; Report of a Case.

F. C. Witter, Petoskey.

Comparative infrequency of sarcomatous changes as compared with tubercular conditions following traumatism. History of repeated trauma in this case. Typical history of tuberculosis with chills, fever, night sweats, cough with expectoration, pain and swelling in the knee and a localized accumulation of pus. Probability of the condition being primarily a pure myxoma. Possibility of a true tubercular condition being a coexistent exciting factor to malignancy. True nature of the trouble not always the one most suspected. Value of microscopic examination of the "granulations." Treatment.

5. Direct Transfusion of the Blood.

ALEXANDER CAMPBELL, Grand Rapids.

It is not known just when transfusion of blood was advocated, but its practice was extensive in the first century. The earlier methods were necessarily crude and imperfect. Different methods of transfusion described, such as the Carrol suture, the Crile cannula dog method, the artery to vein anastomosis, etc. It is important to treat the adventitia properly. Methods of transfusion in which it is possible to measure the exact amount of blood that is transfused. The indications for the transfusion of blood. Report of cases.

SECTION ON GYNECOLOGY AND OBSTETRICS

Chairman—Frederick C. Warnshuis, Grand Rapids.

Secretary—Francis J. Lee, Grand Rapids.

(The Secretary of the Section will collect all papers as soon as read.)

First Session, Wednesday, July 10th

1:45 P. M.

1. Functional Tests in the Surgical Diseases of the Kidney.

ERNEST K. CULLEN, Detroit

Discussion opened by F. W. Robbins, Detroit.

2. The Mechanical Relations of the Broad Ligament to Pelvic Surgery, with lantern slide demonstrations.

E. C. DUDLEY, Chicago.

3. A Study of Two Hundred Cases of Cancer of the Uterus with Special Reference to Early Diagnosis.

GEORGE KAMPERMAN, Ann Arbor

In Michigan fatalities due to cancer are among the highest on the mortality list. The disease is comparatively frequent, while the percentage of cures is small. At the University of Michigan Gynecologic Clinic one out of every twenty patients seeking admission has carcinoma of the uterus A statistical study is made of 200 cases of uterine cancer. Early diagnosis is necessary to obtain a cure. This is important, as a cure is possible only in the early stages of the disease. Slight hemorrhages at or near the menopause always call for a microscopic examination of tissue. A campaign of education is necessary in order that patients may cooperate with the physician in obtaining an early diagnosis.

4. Surgical Treatment for Retroversion of the Uterus.

BERTHA VAN HOOSEN, Chicago.

Second Session, Thursday, July 11th

9:00 to 11:30 A. M.

1. Conservation, what does it mean in Gynecology and Obstetrics?

H. WELLINGTON YATES, Detroit.

2. Pituitary Extract in Obstetrics and Gynecology.

A. W. LESCOHIER, M.D., and O. E. CLOSSON, B.S., Detroit

A fairly extensive trial in the hands of clinical investigators indicates that extracts of the posterior lobes of the pituitary body are of considerable value in obstetric and gynecologic practice. Such preparations have been found efficient in stimulating uterine contractions of an atonic uterus at all stages of labor. The extract has also been used successfully in incomplete abortion and miscarriage, and as a substitute for ergot in postpartum hemorrhage. Certain investigators have reported that the administrations of the drug prior to cesarean section decreases the hemorrhage and consequently the shock of the operation. The pituitary extract stimulates the uterus to rhythmical and not tetanic contraction. No untoward effects, either to mother or child, have been reported. In the present study of this drug certain of the clinical findings above mentioned have been confirmed, notably the value of pituitary extract in uterine inertia and postpartum. An opportunity has not presented itself for trying the drug either in abortion, miscarriage or cesarean section. Laboratory experiments show that the drug stimulates the pregnant uterus to rhythmical contractions. Injections of large amounts of the extract do not produce abortion in pregnant animals. Large doses of pituitrin produce a glycosuria, which persists for some time, but which is apparently of no serious significance. No untoward effects were observed in animals when enormous doses were given.

3. The Treatment of Marked Uterine Prolapse. Report of Sixty Cases treated by different methods. Illustrated by lantern slides.

REUBEN PETERSEN, Ann Arbor.

4. Benign and Malignant Ovarian, Parovarian and Uterine Tumors in Pregnancy, Labor and the Puerperium. Illustrated with specimens, pictures and microscopic sections.

A. BELCHAM KEYES, Chicago.

Third Session, Thursday, July 11th

1:45 P. M.

Election of Chairman for 1913.

Election of Secretary for 1913.

1. The Vaginal Prolapse.

J. H. CARSTENS, Detroit.

2. Lantern Slide Demonstrations, Illustrating the Conduct of Normal Labor.

Charles E. Boys, Kalamazoo.

The purpose of this paper is to show a technic by which a satisfactory asepsis can be obtained in obstetrical practice in homes. Slides will illustrate the preparation of the obstetrical bag, preparation of the room, the bed, the doctor, the patient and for the baby.

3. The Nature, Symptoms and Treatment of the Toxemias of Pregnancy.

J. B. Whinery, Grand Rapids.

Signs of toxemia in normal pregnancy; the liver and kidney in pregnancy; relationship between the various types of toxemia. Toxic vomiting, etiology, symptoms, value of urea and ammonia ratio in urine. Rôle of internal secretions. Treatment. Nephritis. Contrast between signs of "kidney pregnancy" and a true nephritis; importance of urinary findings and blood-pressure readings. Interruption of pregnancy for nephritis. Eclampsia. Viet's theory of preparation of chorionic villi, anaphylaxis; ether theories, pathologic findings in eclampsia, treatment. Conservative treatment proving as effective as immediate emptying of the uterus. Value of blood letting and eliminative measures.

4. Michigan's Midwife Problem.

Walter E. Welz, Detroit.

Improved standard of obstetrics to-day. The position of the midwife in obstetrical practice to the present time. The midwife in Michigan. She has outgrown her usefulness. The practice of midwifery must be regulated first; later the midwife should be eradicated. How this may be done in large cities, in small cities, in the country. Legislation recommended. Basis of improved obstetrics is to be the education of the masses to the advantage of good obstetrics.

SECTION ON OPHTHALMOLOGY AND OTO-LARYNGOLOGY

Chairman—R. W. Gillman, Detroit.
Secretary—H. B. Morse, Bay City.
(The Secretary of the Section will collect all papers as soon as read.)

First Session, Wednesday, July 10th
1:45 P. M.

1. Chairman's Address.

R. W. Gillman, Detroit.

2. Chronic Suppuration of the Antrum of Highmore and Its Treatment by the Intranasal Operation.

Otto T. Freer, Chicago.

3. Indications for Enucleation.

Calvin R. Ellwood, Menominee

Subject suggested by great difference of opinion among oculists. Two cases of sympathetic ophthalmitis reported. Intelligence and ability of patient to obtain skilled advice quickly, factors in deciding often less favorable than the immediate. Reasons for saving badly shattered sightless eyes largely sentimental.

4. Maxillary Sinusitis.

Benton N. Colver, Battle Creek

1. Frequency.
2. Methods of diagnosis—clinical symptoms, transillumination, exploration, skiagraphy.
3. Relation to disease in other sinuses.
4. Treatment.
5. Course to be followed depends on: (a) Duration of disease. (b) Scarcity of symptoms. (c) Character of pus. (d) Progress under milder procedures. (e) Social position and inclination of patient.
6. Correction of intranasal deformities.
7. Irrigation.
8. Surgical procedures on the sinus.

5. The Use of Salvarsan in Interstitial Keratitis, with a Report of Cases.

Walter R. Parker, Detroit.

6. A Case of Double Deep Brain Abscess, Operation, Recovery.

R. Bishop Canfield, Ann Arbor.

Second Session, Thursday, July 11th
9:00 to 11:30 A. M.

1. Frontal Lobe Abscess.

Don M. Campbell, Detroit.

Etiology of frontal lobe abscess; its comparative infrequency in literature; its various causes, symptoms and surgical management; extreme difficulty in drainage; results. Report of case.

2. Vaccine Therapy and its Application in Diseases of Eye, Ear, Nose and Throat.

D. B. Cornell, Saginaw.

3. Salvarsan, its Use to the Oculist, and Laryngologist.

R. C. Fraser, Port Huron.

4. Foreign Bodies of the Trachea and Esophagus. Preston M. Hickey, Detroit.

5. Nasal Reflex Neuroses.

Edward J. Berstein, Kalamazoo.

During past twenty years of special practice many neuroses whose seat seemed to be in other parts of the body, have cleared up by proper attention to pathologic conditions in the nasal chambers, i. e., asthenopia, rebellious to all optical measures, asthma paroxysmal and vasomotor headache, tinnitus aurium and deafness, cough, sinus pains, vertigo, amblyopia, lacrimation, limitations in visual fields, corneal ulcers, ocular muscle troubles, insomnia, enuresis, hoarseness, asphonia, chorea, nasal disturbances and sexual apparatus. Report of cases.

Third Session, Thursday, July 11th
1:45 P. M.

Election of Chairman for 1913.

1. The Treatment of Corneal Opacities.
F. W. BROWN, Bay City.
2. The Need of More Closely Following Modern General Surgical Principles in Rhinological Practice.
H. L. SIMPSON, Detroit.
3. The Surgical Tonsil with a Discussion of the Indications and Technic Required for Enucleation.
B. R. SHURLY, Detroit.

Discussion; James M. De Kraker, Grand Rapids.

4. Cataract Operation.
J. G. HUIZINGA, Grand Rapids.

1. Brief description of the various methods of operating and comments on the same.
2. Complications at the time of and preceding the operation.
3. Complications during the operation.
4. Complications during the healing process and subsequently.
5. Comparative results of the various methods.

5. The Narrow Nose.
R. E. MERCER, Detroit.

Due primarily to lack of development. Rôle of adenoids and enlarged tonsils. High arch and vicious circle between it and adenoids. Mouth-breathing, often a habit, may be cause as well as result of other conditions. Thumb-sucking. Uselessness of usual nasal operations in the narrow underdeveloped nose. Jaw-spreading, direction of force, how applied, rapidity. Age and physique. Orthodontia as usually applied of little value to the rhinologist. Straightening the teeth does not widen nor deepen the nose; spreading the jaw, in suitable cases, does. Often need of freeing septum to let arch drop. Rolling operation, instrument. Measurements and casts.

COUNTY SECRETARIES ASSOCIATION

FOURTH ANNUAL MEETING

Tuesday, July 9th, 1912
2:00 P. M.

President—Charles E. Boys, Kalamazoo.
Vice-president—G. M. Livingston, Manistique.
Secretary—Chas. T. Southworth, Monroe.

1. Presidential Address.
CHARLES E. BOYS, Kalamazoo.
2. Subject to be announced.
G. M. LIVINGSTON, Manistique.
3. Subject to be announced.
I. L. SPALDING, Hudson.
4. Value of Publicity to Medical Societies.
C. M. WILLIAMS, Alpena.
5. Tuscola County Medical Society Plan for the Care of the Indigent Sick.
W. C. GARVIN, Millington.
6. Address. The Medical Profession and the Public.
FREDERICK R. GREEN, Chicago.
7. General Discussion. The Society Bulletin.
8. Election of Officers.
9. Adjournment.

HOUSE OF DELEGATES

Delegates and Alternates to the Forty-Seventh Annual Meeting

NOTE.—The black-face name is that of the delegate; the other, that of the alternate.

Alpena—Branch No. 46

A. E. Bonnerville, Alpena.
E. E. McKnight, Alpena.

Antrim—Branch No. 65

L. L. Willoughby, Mancelona.
R. E. L. Gibson, Central Lake.

Barry—Branch No. 26

Geo. W. Lowry, Hastings.

Bay—Branch No. 4

R. C. Perkins, Bay City.
E. A. Hoyt, Bay City.

Benzie—Branch No. 59

(One delegate).

Berrien—Branch No. 50

E. J. Witt, St. Joseph.
F. M. Kerry, St. Joseph.

Branch—Branch No. 9

Samuel Schultz, Coldwater.
W. A. Griffith, Coldwater.

Calhoun—Branch No. 1

W. C. Marsh, Albion.
A. S. Kimball, Battle Creek.

Cass—Branch No. 36

(One delegate).

Charlevoix—Branch No. 37

B. R. Armstrong, Charlevoix.
A. M. Wilkinson, Charlevoix.

Cheboygan—Branch No. 58

(One delegate).

Chippewa—Branch No. 35

C. W. Thompson, Newberry.
F. H. Husband, St. Ste. Marie.

Clinton—Branch No. 39

James E. Taylor, Ovid.
E. Schemer, Fowler.

Delta—Branch No. 38

James Mitchell, Gladstone.
A. L. Laing, Rapid River.

Dickinson-Iron—Branch No. 56

(One delegate).

Eaton—Branch No. 10

C. B. Wasson, Bellevue.
C. A. Stimpson, Eaton Rapids.

Emmet—Branch No. 41

L. W. Gardner, Harbor Springs.
J. J. Reycraft, Petoskey.

Genesee—Branch No. 24

J. G. R. Manwaring, Flint.
F. B. Miner, Flint.

Gogebic—Branch No. 52

L. O. Houghton, Ironwood.
A. J. O'Brien, Bessemer.

Grand Traverse-Leelanaw—Branch No. 18

W. D. Mueller, Traverse City.
G. W. Fralick, Maple City.

Gratiot—Branch No. 25

I. N. Brainerd, Alma.
E. M. Highfield, Riverdale.

Hillsdale—Branch No. 3

(One delegate).

Houghton—Branch No. 7

A. F. Fischer, Hubbell.
M. D. Roberts, Hancock.

Huron—Branch No. 47

S. B. Young, Caseville.
A. E. Yale, Pigeon.

Ingham—Branch No. 40

G. F. Baugh, Lansing.
B. M. Davey, Lansing.

Ionia—Branch No. 16

J. J. McCann, Ionia.
J. F. Pinkham, Belding.

Isabella-Clare—Branch No. 54

(One delegate).

Jackson—Branch No. 27

C. G. Parnall, Jackson.
C. H. Lewis, Jackson.

Kalamazoo Academy of Medicine—Branch No. 64

L. G. Rhodes, South Haven.
F. H. Tyler, Kalamazoo.

Kent—Branch No. 49

J. D. Brook, Grandville.
F. C. Warnshuis, Grand Rapids.
R. H. Spencer, Grand Rapids.
S. L. Rozema, Grand Rapids.
L. A. Roller, Grand Rapids.
A. J. Baker, Grand Rapids.

Lapeer—Branch No. 23

(One delegate).

Lenawee—Branch No. 51

G. H. Lamley, Blissfield.
Frank Andrews, Adrian.

Livingston—Branch No. 6

H. F. Sigler, Pinckney.
M. A. Coan, Brighton.

Macomb—Branch No. 48

V. H. Wolfson, Mt. Clemens.

Manistee—Branch No. 19

James A. King, Manistee.
R. J. Kirkland, Manistee.

Marquette-Alger—Branch No. 28

V. H. Vanderventer, Ishpeming.
C. J. Larson, Negaunee.

Mason—Branch No. 17

(One delegate).

Mecosta—Branch No. 8

George H. Lynch, Big Rapids.
A. A. Spoor, Big Rapids.

Menominee—Branch No. 55

C. R. Elwood, Menominee.
E. V. McComb, Menominee.

Midland—Branch No. 43

(One delegate).

Monroe—Branch No. 15

W. D. Acker, Monroe.
E. S. Cornwell, La Salle.

Muskegon-Oceana—Branch No. 61

W. L. Griffin, Shelby.
J. D. Buskirk, Shelby.

Montcalm—Branch No. 13

D. K. Black, Greenville.
W. H. Lester, Greenville.

Newaygo—Branch No. 60

G. G. Burns, Fremont.
W. H. Barnum, Fremont.

Oakland—Branch No. 5

Robert Le Baron, Pontiac.
J. S. Morrison, Royal Oak.

O. M. C. O. R. O.—Branch No. 11

C. C. Carnalia, Roscommon.
L. A. Harris, Gaylord.

Ontonagon—Branch No. 66

(One delegate).

Osceola-Lake—Branch No. 30

(One delegate).

Ottawa—Branch No. 32

G. H. Thomas, Holland.
D. B. Lanting, Hudsonville.

Presque-Isle—Branch No. 63

(One delegate).

Saginaw—Branch No. 14

E. P. W. Richter, Saginaw.
W. L. Dickinson, Saginaw.

Sanilac—Branch No. 20

James A. Fraser, Lexington.
James W. Scott, Sandusky.

Schoolcraft—Branch No. 57

G. M. Livingston, Manistique.
W. J. Saunders, Manistique.

Shiawassee—Branch No. 33

A. L. Bailey, Chesaning.
R. C. Mahaney, Owosso.

St. Clair—Branch No. 45

W. P. Derck, Marysville.
W. B. James, Marysville.

St. Joseph—Branch No. 29

W. A. Royer, Mendon.
J. R. Williams, White Pigeon.

Tri-County—Branch No. 62

C. E. Miller, Cadillac.
Rudolph J. E. Oden, Cadillac.

Tuscola—Branch No. 44

E. P. Bender, Caro.
R. S. Townsand, Fairgrove.

Washtenaw—Branch No. 42

John A. Wessinger, Ann Arbor.
Dean Loree, Ann Arbor.
S. M. Yutzy, Ann Arbor.
James F. Breakey, Ann Arbor.

Wayne—Branch No. 2

G. L. Keifer, Detroit.
A. D. Holmes, Detroit.
B. R. Schenck, Detroit.
James Cleland, Jr., Detroit.
W. M. Donald, Detroit.
V. C. Vaughan, Jr., Detroit.
J. Everett King, Detroit.
W. J. Wilson, Jr., Detroit.
W. H. Morley, Detroit.
Alexander W. Blain, Detroit.
F. B. Tibbals, Detroit.
P. J. Livingstone, Detroit.
C. W. Hitchcock, Detroit.
E. B. Smith, Detroit.
B. R. Shurly, Detroit.
C. H. Judd, Detroit.
H. W. Longyear, Detroit.
B. H. Stevens, Detroit.
A. W. Ives, Detroit.
J. C. Dodds, Detroit.

OFFICERS OF THE SOCIETY

President, D. EMMETT WELSH...Grand Rapids
First Vice-President, GUY L. CONNOR...Detroit
Second Vice-Pres., NEIL S. MACDONALD...Hancock
Third Vice-President, GEO. C. HAFFORD.Albion
Fourth Vice-Pres., GEO. D. CARNES.South Haven
Secretary, WILFRID HAUGHEY....Battle Creek
Treasurer, W. A. STONE.....Kalamazoo

OFFICERS OF SECTIONS

General Medicine

GUY L. CONNOR, Chairman.....Detroit
DAVID J. LEVY, Secretary, 1912-13.....Detroit

Surgery

CLARK D. BROOKS, Chairman.....Detroit
RAY C. STONE, Secretary, 1912-13..Battle Creek

Gynecology and Obstetrics

F. C. WARNSHUIS, Chairman....Grand Rapids
F. J. LEE, Secretary.....Grand Rapids

Ophthalmology and Oto-Laryngology

R. W. GILLMAN, Chairman.....Detroit
H. BEACH MORSE, Secretary, 1912-13..Bay City

County Secretaries Association

President, CHARLES E. BOYS.....Kalamazoo
Vice-President, G. M. LIVINGSTON...Manistique
Secretary, CHAS. T. SOUTHWORTH....Monroe

Delegates to the American Medical Association

E. T. ABRAMS, term expires 1913....Dollar Bay
F. W. ROBBINS, term expires 1912.....Detroit
R. R. SMITH, term expires 1912....Grand Rapids

Alternates

ARTHUR D. HOLMES, term expires 1913.Detroit
V. A. CHAPMAN, term expires 1912...Muskegon
C. G. DARLING, term expires 1912....Ann Arbor

THE COUNCIL

Term Expires

A. P. BIDDLE, 1st Dist.....1915.... Detroit
A. E. BULSON, *V. Ch'mn*, 2d Dist.1913.... Jackson
W. H. HAUGHEY, *Secy*, 3d Dist.1915.Battle Creek
A. H. ROCKWELL, 4th Dist....1917. Kalamazoo
W. J. DuBOIS, 5th Dist.....1917.Gr. Rapids
A. M. HUME, 6th Dist.....1915.... Owosso
W. J. KAY, 7th Dist.....1917.... Lapeer
A. L. SEELEY, 8th Dist..... 1913.....Mayville
B. H. McMULLEN, 9th Dist....1913... Cadillac
C. H. BAKER, 10th Dist..... 1917...Bay City
W. T. DODGE, *Ch'mn*, 11th Dist. 1915..Big Rapids
C. J. ENNIS, 12th Dist..... 1913.S.Ste.Marie
F. C. WITTER, 13th Dist.....1915... Petoskey
C. T. SOUTHWORTH, 14th Dist.1917.... Monroe
D. EMMETT WELSH, *Ex-Officio*....Grand Rapids
WILFRID HAUGHEY, *Ex-Officio*....Battle Creek
FIRST DISTRICT—Macomb, Oakland, Wayne.
SECOND DISTRICT—Hillsdale, Ingham, Jackson.
THIRD DISTRICT—Branch, Calhoun, Eaton, St. Joseph.
FOURTH DSTRICT—Allegan, Berrien, Cass, Kalamazoo, Van Buren.
FIFTH DISTRICT—Barry, Ionia, Kent, Ottawa.
SIXTH DISTRICT—Clinton, Genesee, Livingston, Shiawassee.
SEVENTH DISTRICT—Huron, Lapeer, Sanilac, St. Clair.
EIGHTH DISTRICT—Gratiot, Isabella-Clare, Midland, Saginaw, Tuscola and (Gladwin unattached).
NINTH DISTRICT—Benzie, Grand Traverse-Leelanaw, Manisee, Mason, Tri (Kalkaska, Missaukee, Wexford).
TENTH DISTRICT—Bay (including Arenac and Iosco). O. M. C. O. R. O. (Otsego, Montmorency, Crawford, Oscoda, Roscommon and Ogemaw combined).
ELEVENTH DISTRICT — Mecosta, Montcalm, Muskegon-Oceana, Newaygo, Osceola-Lake.
TWELFTH DISTRICT — Chippewa (including Luce and Mackinaw). Delta, Dickinson-Iron, Gogebic, Houghton (including Baraga and Keweenaw), Ontonagon, Marquette-Alger, Menominee, Schoolcraft.
THIRTEENTH DISTRICT — Alpena (including Alcona), Antrim, Charlevoix, Cheybogan, Emmet, Presque Isle.
FOURTEENTH DISTRICT — Lenawee, Monroe, Washtenaw.

Michigan Member of the National Legislative Council of the American Medical Association

EDWARD T. ABRAMS.....Dollar Bay

PERMANENT COMMITTEES

On Scientific Work

D. EMMETT WELSH, Chairman....Grand Rapids
WILFRID HAUGHEY, Secretary....Battle Creek
GUY L. CONNOR.....Detroit
CLARK D. BROOKS.....Detroit
F. C. WARNSHUIS.....Grand Rapids
R. W. GILLMAN.....Detroit
DAVID J. LEVY.....Detroit
RAY C. STONE.....Battle Creek
F. J. LEE.....Grand Rapids
H. BEACH MORSE.....Bay City

On Arrangements

F. J. DENSLOW, Chairman.....Muskegon
F. B. MARSHALL.....Muskegon
GEORGE S. WILLIAMS.....Muskegon
JACOB OOSTING.....Muskegon
W. A. CAMPBELL.....Muskegon
P. J. SULLIVAN.....Muskegon
V. A. CHAPMAN.....Muskegon

On Exhibits

FRANK B. MARSHALL, until 1914,....
Chairman .....Muskegon
G. H. McFALL, untl 1913.....Detroit
F. E. RUGGLES, until 1912.....Bay City

On Medical Education

DAVID INGLIS, until 1913.....Detroit
FLEMING CARROW, until 1914....Traverse City

On Legislation and Public Policy

EDWARD T. ABRAMS, Chairman....Dollar Bay
PERRY SCHURTZ.....Grand Rapids
GUY L. KIEFER.....Detroit

MEDICOLEGAL COMMITTEE

General Attorneys: BOWEN, DOUGLAS, EAMAN and BARBOUR, 1101-1108 Ford Bldg., Detroit.

Executive Board

F. B. TIBBALS, Chairman, until 1916...
101 Fort St., W.....Detroit
C. B. STOCKWELL, until 1915.....Port Huron
E. C. TAYLOR, until 1914.....Jackson
C. W. HITCHCOCK, until 1913.....Detroit
ANGUS McLEAN .....Detroit

SPECIAL COMMITTEES

To Encourage the Systematic Examinations of the Eyes and Ears of School Children Throughout the State

WALTER R. PARKER, Chairman.....Detroit
C. H. BAKER.....Bay City
WILFRID HAUGHEY.....Battle Creek

On Venereal Prophylaxis

A. P. BIDDLE, Chairman.....Detroit
W. E. BLODGETT.....Detroit
C. E. HOOKER.....Grand Rapids

On Tuberculosis

C. H. JOHNSTON, Chairman.....Grand Rapids
A W. CRANE.....Kalamazoo
E. L. SHURLY.....Detroit
P. M. HICKEY.....Detroit
FREDERICK R. WALDRON.....Ann Arbor
T. M. KOON.....Grand Rapids
V. C. VAUGHAN, JR.....Detroit

On Public Health Education

F. A. RUTHERFORD, Chairman....Grand Rapids
JEANNIE C. SOLIS.....Ann Arbor
ANNA O'DELL.....Detroit
BLANCH N. EPLER.....Kalamazoo
CORA A. MOON.....Grand Rapids

On Fee Splitting

C. B. STOCKWELL, Chairman.....Port Huron
J. G. R. MANWARING.....Flint
SCHUYLER C. GRAVES.....Grand Rapids

On Memorial

F. C. WARNSHUIS, Chairman.....Grand Rapids
CHAS. T. SOUTHWORTH.....Monroe
ALBERT E. BULSON.....Jackson

SOCIETY NEWS

ANNUAL MEETING A. M. A.

At the meeting of the American Medical Association in Atlantic City, the registration was 3,600. The scientific work done in the various sections rivaled that of any meeting ever held, both in volume and in worth.

Two new sections presented programs this year. A section on Urology and a section on Hospitals.

The business of the American Medical Association transacted in the House of Delegates, was all of a progressive nature. The report of the secretary showed a net increase in membership for the year of 323, there being now 34,282 members of the American Medical Association.

For the past few years no great effort has been made to transfer names from the subscription list to the membership list, on account of the rulings of the postal department. However, within the past year these rulings have been so modified that we are able to conform with them; and there will probably be a marked increase in membership in the near future.

The reapportionment of delegates of the various State Societies took place this year, and is based on 700 as a unit. Michigan for the next three years will have four delegates.

The report of the Board of Trustees was extensive, showing the Association in good financial condition, commending the work of the Council on Pharmacy and Chemistry; discussed the new button, and the special Journals published by the Association. It also recommended that work of organization be transferred from the Council on Health and Public Instruction to the Judicial Council. The report of the Judicial Council contains a proposed revision of the principles of medical ethics so written that these principles may be used as a code, on which to base membership and the retaining of membership in the various societies. These principles were adopted. The report of the Council on Medical Education was particularly valuable and should be read in full as it appears in *The Journal* of the American Medical Association for June 8.

The Council on Health and Public Instruction has been conducting a press bureau, sending bulletins out each week containing extracts from *The Journal*, abstracts of original articles, items of public interest, etc. The mailing list now includes 4,900 newspapers and publications. The material in these press bulletins has been copied by numerous publications, and this promises to be a valuable means of educating the public. In addition, the Council has been conducting a speakers' bureau, by which well-known speakers from one state have been sent to neighboring states. Six such speakers have visited Michigan.

The Committee on the Prevention of Blindness presented an exhaustive report as did the Committee on Vision Standards for Pilots, and the Committee on Public Health Education Among Women. These reports should all be read in full.

The Committee on Uniform Regulation of Membership submitted a complete report. This committee adopted four recommendations:

1. That the fiscal year of component and constituent societies should begin January 1 and end December 31, and that all annual reports from component county societies, including the names of officers, delegates and the roster of members for the ensuing year, together with the state per capita assessments, should be in the hands of the state secretary on January 1 of each year.
2. That it was advisable to devise and adopt uniform application blanks, receipt blanks, membership cards and transfer cards.
3. That all constituent state associations should hold charters from the American Medical Association.
4. That a uniform plan for the transfer of members from one component county society to another was necessary for the good of the organization.

This committee also recommended (which was approved by the House of Delegates) that the American Medical Association invite the Secretaries of all of the State Societies to a conference in Chicago, looking toward the better regulation of membership and methods of carrying on the work of the societies.

The Committee on Relief Fund and Physicians' Sanatorium reported that the plan was impracticable, and asked to be discharged.

Dr. J. W. Barrett of Melbourne University, Melbourne, Australia, invited the members of the American Medical Association to attend the meeting of the Australian Medical Congress to be held in New Zealand in the spring of 1914.

The Committee on the National Department of Health, recommended that the Association reiterate its appeal for independent public

health service along the lines laid down in the Owen bill, as reported by the Senate Committee on Health and National Quarantine; that the Association endorse the pending legislation to improve the status of the physicians employed in the Public Health and Marine-Hospital Service, providing such legislation be enacted in a form not calculated to prevent or delay the proper coordination and independence of the public health work of the national government; that the Association continue a committee on National Health Organization, with instructions to use every proper means to procure the effective coordination and independence of the public health work of the national government.

At the opening of the general meeting, Mayor Bacharach, in a few well-chosen words, presented to President Murphy the key to Atlantic City. Governor Woodrow Wilson of New Jersey, welcomed the American Medical Association on the part of the state of New Jersey, and felicitated the Association as well as Atlantic City on the fact that these thousands of people came to Atlantic City on a serious errand, rather than a frivolous one.

President Jacobi's address appeared in *The Journal* of the American Medical Association for June 8.

He took up the subject of the best means of combating infant mortality, after first noting the growth of the Association and the desirability of further increasing its membership. According to the New York Milk Committee and other authorities, 17 per cent. of infant deaths are caused by congenital troubles. Two great remedies are commended: 1. No midwife be allowed to handle any of these cases. 2. Rest be provided for the mothers after confinement and the children be referred to milk stations. Both of these are combated by Dr. Jacobi, who says that his program includes additions and changes to these propositions. If 17 per cent. of infant deaths are caused by congenital troubles, study these and obviate them. The babe's life and pathology begins nine months before birth. What the world wants is healthy babies, and it seems almost impossible to prevent some from being infirm, both physically and mentally, so long as the riches provided by this world are accessible to only a part, and the advice to limit the number of children would be more appropriately given to the poor rather than to the rich. A laboring mother is handicapped in producing healthy children, and the least that can be done for her is the reduction of working hours during pregnancy and protracted rest after confinement. Insanitary occupations are also hurtful. As regards the midwife, he says that 50 per cent. of all the births in the United States are attended by non-medical women, and he strongly criticizes the view that the midwife should be abolished. The midwives, he says, are mentioned as not even worthy of being educated, and he asks, "Do our obstetricians demand all the obstetric practice?" He would give a hearty welcome to the evening-dress obstetrician, who gets hundreds of dollars for a confinement, in the household where the income is $15 or $10 a week. The teaching of midwives is not so difficult as is thought, and doctors themselves are often defective in practical knowledge. If this is the case in the green tree, i. e., among the men and women with medical diplomas, what can be expected from the untutored? It is useless to attempt a comparison of a midwife with a medical man. They must be considered individually. The ignorant doctor in obstetric work is inferior to the well-informed midwife and *vice versa*. What he would teach the midwives is, besides the manual care of normal labor, not to use medicine, not to operate, not to try even to remedy wrong fetal position as a rule; to teach them the use of soap and water and antiseptics; enforce by law and custom the frequent change of their own clothing; forbid the simultaneous attendance on two or more cases; see that she does not attend a labor case if there is in her family or immediate neighborhood a case of contagious disease; and she should be examined and licensed and protected as are the doctors. The midwife should know when to call a doctor and how to do a version in cases of emergency; how to attend the eyes and meet other contingencies, like hemorrhage, asphyxia, etc.; and, more than all, how to keep absolutely clean, and lastly, and here is the secret of success, not to leave the woman. As regards the milk question, Jacobi insists that the maternal milk is the safest nutriment. It is not much influenced by emotions, cares and worries, only occasionally by medicine taken by the mother or by her food. The daily quantity is rarely less than a quart, and there is no such thing as absolute absence of secretion. He does not think that female suffrage will alter the conditions, or that women will be unable to meet added responsibilities in our modern civilization. The mother's milk has certain protective

properties not possessed by substitutes and contains substances which organic chemistry has never isolated—the ferments that circulate in the blood, the alexins, agglutinins, etc. He referred to the reduction of infant mortality in Paris during the siege (1870-71) when women were compelled to nurse their own babies on account of the absence of cow's milk, as showing the superiority of maternal nursing, and gave a table to show the incidence of disease in the breast-fed and artificially-fed.

The exhibits were up to the same high standard always shown, and the scientific exhibits were of especial interest and value.

The newly elected officers are as follows:

President, Dr. Abraham Jacobi, New York.

President-Elect, Dr. John A. Witherspoon, Nashville, Tenn.

First Vice-President, Dr. Philander A. Harris, Paterson, N. J.

Second Vice-President, Dr. John L. Heffron, Syracuse, N. Y.

Third Vice-President, Dr. H. H. McClanahan, Omaha, Neb.

Fourth Vice-President, Dr. Henry D. Fry, Washington, D. C.

Secretary, Dr. Alexander R. Craig, Chicago.

Treasurer, Dr. William Allen Pusey, Chicago.

Trustees, Dr. M. L. Harris, Chicago; Dr. C. A. Daugherty, South Bend, Ind.; Dr. W. T. Councilman, Boston.

Member of the Judicial Council, Dr. George W. Guthrie, Wilkes-Barre, Pa.

Member of Council on Health and Public Instruction, Dr. Walter B. Cannon, Boston.

Members of Council on Medical Education, Dr. James W. Holland, Philadelphia; Dr. W. D. Haggard, Nashville, Tenn.

Next meeting, Minneapolis, Minn., June, 1913.

ALPENA COUNTY MEDICAL SOCIETY

The meeting of May 9 was in many ways a record breaker. The medical society had as guests on that occasion a representative number of the public men of the city. The editors, the clergy, the president of the School Board, the superintendent and principal of schools, the president of the Hospital Association, the president and secretary of the Chamber of Commerce, the commissioner of schools, the officers of the Anti-Tuberculosis Society, together with the entire medical profession of the city, sat down to dinner in the parish house. This was the first meeting of the kind ever held in the city, but we made out so well, that our guests, the clergy, declared they would return the compliment at no distant season.

The menu served by the ladies was a dream. The speeches were on the general theme, "Preventive Medicine," and were full of practical ideas for both layman and doctor. But above all, this dinner started a spirit of good fellowship that makes life worth living. We doctors do not often enough spend time to consider the spirit of sacrifice that prompts the members of other professions in their work. Our guests of May 9, long may they live!

A fee bill has been prepared by the local society for the guidance of both physician and patient. It did not seem wise at the present time to raise the charge for medical services, although they are admitted by all to be wholly inadequate. First, the cost of living has advanced fully one-half; second, the cost of securing a medical education is at least four times as great as a few years ago; third, modern society requires physicians to have the equipment to quickly answer calls, and the instruments of scientific research that were unknown a decade ago.

Nevertheless, the medical fraternity, as ever, have no desire to opress their patients by charges that will be a hardship to pay, and so they recommend that until the wages of the laboring man are where they should be, that the charges remain as before.

C. M. Williams, Secretary.

BAY COUNTY MEDICAL SOCIETY

Four meetings were held in April with an average attendance of sixteen. This seems to disprove the idea that weekly meetings would not be well attended.

The following reviewed papers during the month: Drs. M. Flynn, M. Gallagher, H. M. Gale, H. N. Bradley, J. C. Grosjean, A. W. Herrick, J. W. Hauxhurst, J. W. Gustin.

At the regular monthly meeting, a draft of the new by-laws was read. It was moved and carried that the adoption of by-laws be made a special order of business for the next regular business meeting. It was also moved and carried that the president appoint a committee on revision of the fee bill. The president later appointed Drs. McLurg, R. W. Brown and Tupper on that committee.

Dr. Angus McLean, of Detroit, was present at the meeting, and made a few informal remarks.

At the meeting of April 29, Dr. J. M. Jones presented a case of osteo-sarcoma of the femur in a boy of 12 or 13 with a review of the literature on the subject especially in relation to prognosis and treatment.

Dr. S. E. Gustin exhibited a specimen of a bladder, with immensely thickened walls, greatly enlarged prostate, and a large stone unrecognized during life. The bladder had been catheterized through a false opening for several months.

The Bay County Medical Society should have a home of its own. A private residence in some fairly central location might be secured, and the thing started. A meeting place and a library are the most needed. Later, club features could be added. Why not do it now?

At the meeting of May 6th, the following papers were reviewed:

"Joint Surgery," S. E. Gustin; "Chronic Nasal Diphtheria," H. B. Morse; "Typhoid Carriers," R. E. Scrafford.

At the May regular meeting a fee bill was adopted, which will be printed and distributed later. The consideration of by-laws was postponed another month.

Dr. A. S. Moore, assistant physician at the Middletown (N. Y.) State Hospital, gave an interesting talk on the newer methods of procedure on admission of patients to insane hospitals, with the great advantages over older procedures. He also went over some statistics showing results of treatment. The importance of the hereditary factor was brought out by a study of 100 cases made by himself.

Dr. Wm. Kerr read a review on the disease, "Gangosa."

H. N. Bradley, Secretary.

CALHOUN COUNTY MEDICAL SOCIETY

The second quarterly meeting of the Calhoun County Medical Society convened at the home of Dr. R. M. Gubbins in Ceresco June 4. This was by special invitation of Dr. and Mrs. Gubbins.

The meeting was presided over by the President, Dr. R. D. Sleight, the only business item of interest being a change in the office of Secretary-Treasurer. As Dr. Stone has closed his offices in Battle Creek indefinitely, contemplating a period of study abroad, it was deemed wise to elect one of the members Secretary-Treasurer ad interim, and Dr. A. F. Kingsley was elected to that position.

Two very able papers were presented and occasioned very interesting discussions. papers were "Modern Surgery of the Gall-Bladder and Biliary Ducts," by Dr. A. E. MacGregor of Battle Creek, and "Puerperal Sepsis," by Dr. C. E. Boys of Kalamazoo.

The meeting adjourned and all present partook of a most delectable repast provided by Dr. and Mrs. Gubbins. This meeting at Ceresco has come to be an annual affair, and one which is looked forward to with considerable anticipation.

A. F. Kingsley, Secretary.

CLINTON COUNTY MEDICAL SOCIETY

At the regular meeting of the Clinton County Medical Society, May 2, 1912, Dr. W. L. Cushman, of Lansing, gave a very instructive talk on the "Nose and Its Relation to the General Practitioner," which led to an interesting discussion in which all participated. Two new members were added to our Society, M. S. Gregory, of Eureka, and R. C. Buck, of St. Johns. We have a membership of 23 and all dues are paid for 1912.

James E. Taylor, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

At the meeting, April 23, Dr. C. G. Grulee, of Chicago, read a paper entitled "Constipation in the Infant, Its Causes and Treatment." The paper was listened to by forty members and guests, and was discussed by Drs. Epler, Jackson, Bennett, Robinson, Crane, Tompkinson and Grulee.

The reviews of current journals was taken up at the last meeting by Dr. Light who gave the essence of several important articles which appeared. This hint of what is being written will undoubtedly stimulate us all to a further use of the library, but the review itself is of most benefit to those who report at the meetings, as they see the real value of having our library journals accessible.

An informal discussion of the Owen Bill was entered into by the society at the last meeting. This resulted in a motion carrying for the appointment of a committee who should draft

a suitable resolution or write a letter to our congressmen urging them to have the Owen Bill passed. Night letter telegrams were sent each congressman from our district, and all replied. Out of the number, one replied rather definitely that he did not know or care much about this bill, and the tone of his letter was that he probably would not give it another thought. It might be well for Mr. Townsend to hear from us again giving him some light on the real importance of this bill and why he should help it to pass.

Dr. McMichael, of Chicago, in his talk on tuberculosis, treated the Academy to an unusually instructive program May 14. The doctor is thoroughly alive and full of ideas of this disease which, until his arrival, were unfamiliar to many of us. He came down on the day before the program, looked over several cases of tuberculosis, and selected two or three for demonstration purposes at the meeting. His paper was short and intensely practical, and then followed many lantern slides showing different phases of the work, especially means of obtaining proper conditions for tuberculosis cases even in the most unfavorable surroundings.

The doctor, on the day before, started both the Moro and the Von Pirquet reactions and showed these at the meeting. His diagnosis of areas of dulness by palpating the cutaneous muscular spasm, which is present over these areas, was remarkably accurate, corresponding, to a finger's breadth, to them as outlined by percussion.

The formal and informal discussion which followed could not be interrupted until late in the afternoon, and on this account the paper which was to have been given by Dr. Brooks was put over until a later time.

The Kalamazoo Anti-Tuberculosis Society officers tendered an informal dinner to Dr. McMichael at the New Burdick in the evening, and had the pleasure and benefit of hearing him speak with reference to municipal relations to the fight against tuberculosis.

C. E. BOYS, Secretary.

GRAND TRAVERSE-LEELANAW COUNTY MEDICAL SOCIETY

A special meeting of the Grand Traverse-Leelanaw County Medical Society was held on the evening of May 21, in the office of Dr. J. M. Wilhelm. Nine members were present.

Dr. H. Thurtell read a paper describing a case of poisoning following the administration of Pelletierin Tannate.

Dr. J. J. Brownson read a paper describing a neurotic case.

Dr. O. E. Chase read a paper on "The Pathology of Typhoid Fever."

After discussion of the papers an informal luncheon was served.

Adjourned to meet June 4, in Dr. Lawton's office.

R. E. WELLS, Secretary.

The regular monthly meeting of the Grand Traverse-Leelanaw County Medical Society was held on the evening of June 4 in the office of Dr. F. P. Lawton. Six members were present. Minutes of last meeting read and approved. The chairman appointed a committee of three to arrange for the annual picnic in July.

Dr. Lawton read a very interesting paper on "How Typhoid Fever May Be Eliminated."

Adjourned to meet next month at Dr. Thurtell's office.

R. E. WELLS, Secretary.

HILLSDALE COUNTY MEDICAL SOCIETY

The regular quarterly meeting of the Hillsdale County Medical Society occurred Friday, April 26, 1:30 p. m., in the Mitchell Public Library. This was a joint meeting with the dentists of the county.

Following papers were read:

"Cooperation Between Physicians and Dentists," W. H. Sawyer, M.D., Hillsdale.

"Responsibilities of a Physician from a Dentist's Standpoint," G. S. Hadley, D.D.S., Coldwater.

"Dental Inspection in the Public Schools," Bion Whelan, M.D., Hillsdale.

"Pyorrhea Alveolaris," Frank R. Woods, D.D.S., Hillsdale.

"Antrum Disease," Everett L. Crume, D.D.S., Hillsdale.

"Surgical Treatment of Cleft Palate" (with lantern demonstrations), C. J. Lyons, D.D.S., Jackson.

B. F. GREEN, Secretary.

SANILAC COUNTY MEDICAL SOCIETY

The quarterly meeting of the Sanilac County Medical Society was held in the McDonald House parlors, Sandusky, on Monday, May 20, at 1:30 p. m. On account of the wet weather and the bad condition of the roads the attendance was small. Dr. G. V. Brown, Detroit, gave a very interesting and practical paper on "The Newer Methods of Diagnosing Kidney and Bladder Lesions."

Dr. V. L. R. Smith, Detroit, gave an instructive talk on "Correction of Deformities Congenital and Acquired by Mechanical Methods."

Jas. W. Scott, Secretary.

ST. MARY'S HOSPITAL MEDICAL BOARD

Scientific Meeting March 20, 1912; Presentation of Cases and Case Reports

Dr. W. M. Donald presented a case of Elephantiasis Nostras: This young woman, aged 37 years, married and a domestic by occupation and of English nationality, entered St. Mary's Hospital on the March 13 and remained with us there ten days. She came complaining of an old trouble in her right leg, which she said had existed at intervals for four years. The family history is negative except that she had five sisters all of whom are dead and all of whom died in early life:

One aged 24 of jaundice.

One aged 28 of fatty degeneration of the heart.

One aged 22 of some indefinite heart trouble.

One aged 26 burned in the Iroquois Theater fire, in Chicago, and one aged 19 of some pulmonary difficulty, probably tubercular. She herself has had no children's diseases that she can recall.

When a girl of 16 years of age she was burned in the right foot, and was in bed three months suffering from the consequences of the burn. Four years ago she received a scratch from a rusty safety pin on the same leg near the ankle. Some infective process entered at this point, and the leg became greatly swollen. Suppuration supervened and the physician in attendance found it necessary to make two deep and long incisions over the upper and lower portions of the tibia. She recovered after two months of this illness, but since then the right leg has remained permanently large. As you look at the patient you observe that the right leg below the knee is very much larger than the left, possibly one-quarter as large again as the left. When she entered the hospital it was one-half again as large as the left. What has evidently gone on here has been a process of blocking and damming of the superficial lymphatics and blood-vessels from the infective process from which she suffered four years ago, the result being a marked hyperplasia of tissue producing the condition which I show you.

This is of interest for two reasons: First because it is a case of the Elephantiasis of our own country, due to the pathological lesion of which we have spoken, and distinguished from the Elephantiasis of the Orient or of the Tropics, which has as its causative factor the blocking of the lymphatics and blood-vessels with the *Filaria sanguinis*. The other point of interest is the treatment of the case, which consisted of rest in bed, and of the application of a saturated solution of magnesium sulphate to the leg. Under this treatment, the leg has been reduced, as I have already told you very markedly, and after a few days we will allow her to go home. She tells us that rest helps her, but that the application of this solution has expedited her cure.

The next two cases are cases of joint trouble, one probably gonorrheal, the other probably syphilitic. In these two cases I wish to show you the result of the application of Bier's Hyperemia.

This first young woman is a Belgian, aged 18 years, married, and married only a few weeks, and living with her husband. She entered the hospital and was under observation for about four weeks before I saw her. The diagnosis of the case was wrapped in some mystery, inasmuch as she could not speak English. The etiology was more uncertain. She had a multiple arthritis when she entered the hospital, but under the ordinary antirheumatic treatment of sodium salicylate and rest in bed, the joint troubles greatly improved until they were all practically well except the left ankle-joint. This remained persistently sore, swollen, and inflamed, and the nature of the trouble seemed somewhat uncertain. Dr. McGraw had seen her in consultation with Dr. Hoskins and presumed that it might possibly be tubercular. We had Dr. Chene make an *x*-ray of the part. He likewise thought from the plate secured that the joint was tubercular, inasmuch as there was a shadow over certain portions of the joint which suggested to him and to all of us a possible necrotic area. The

clinical symptoms, however, did not suggest tuberculosis, although the Von Pirquet reaction was positive, and so a week or so later I asked Dr. Chene to make us another plate, which he did, and which I show you. In this you will see there is a very much broader shadow around the joint, which suggests instead of necrosis, some fluid in the joint space. Dr. McGraw had already aspirated and had failed to secure any fluid however. We believed ultimately that we had a case of septic joint, probably gonorrheal in character, although a smear from the vagina failed to show us any of the characteristic gonorrheal organisms. However, we decided to use upon the case Bier's Hyperemia, and modified it as we usually do in the hospital by the use of an ordinary tightly applied bandage above the site of the lesion; leaving it on anywhere from one to four hours, and following it where necessary with artificially induced arterial hyperemia, which we secure ordinarily by the simple application of the hot water bag. In other words and to put it in simple language, we dammed back the venous blood, filled to repletion all the lymphatic spaces, and saturated the returning blood with dissolved products of disturbed metabolism; and then, releasing our bandage which prevented the return flow of blood, and producing a more pronounced arterial flow, we flooded and flushed every portion of the diseased area. The result in this case has been brilliant. Inside of a few days she was resting quietly, although before that she had to be kept constantly under opiates to give her any comfort. From an irritable, obstinate, recalcitrant patient, giving the nurses and the doctors constant annoyance and trouble, she became one of the most easily handled and most good-natured of the patients in the ward. Although previous to the application of the hyperemia she had fought every method of cure and had even thrown off a plaster cast which had been applied to her, yet so susceptible was she to the improvement of the Bier's Hyperemia that she became most amenable to discipline and one of the easiest patients to handle. Inside of a week she was sitting up and inside of two she was walking with some little help. The hyperemic bandage was applied anywhere from one-half hour to four hours, twice a day and the hot water bag applied constantly between bandagings. The classical Bier treatment is to apply a rubber bandage but we have found the ordinary roller bandage made of cotton sufficiently efficacious for our needs.

The third patient is a woman upon whom we likewise used Bier's Hyperemia and obtained results which while not as brilliant as in the previous case were sufficiently good to encourage us in their continuance.

She entered the hospital with a multiple arthritis some three weeks ago, and received ordinary treatment with little relief. The Von Pirquet test was positive, and the history of syphilitic infection was likewise obtained. The picture was thus very confusing and the pathology was likewise confusing. We had had her upon the ordinary antirheumatic treatments and we likewise gave her hypodermatic injections of mercury but neither of these gave our patient very much help, and later the mercury produced a mercurial stomatitis, so that we were forced to discontinue its use. The iodids produced absolutely no effect. We therefore decided to use the hyperemic treatment upon the joints most seriously involved. This we did upon the knee in the right leg, and upon the elbow and wrist in the left arm. The results were not as brilliant as in the previous case, but the relief obtained by the patient was sufficient to encourage us to persist in the treatment for some time, which we did much to our patient's satisfaction. She remained with us, however, only a short time after this, being sent out to the county home at Eloise. She expressed herself as being benefited, however, by the hyperemic bandage, and the clinical symptoms likewise showed improvement.

In the acute infections in these diseased joints we have not found that the hyperemia is of service, in fact it seems even to create a greater disturbance in the joint. We have never tried it with the prolonged treatment as some men have advised, inasmuch as we feared the consequences. Some observers have advised that in acute infections the constricting band be allowed to remain above the diseased area upon the limb from twelve to eighteen hours. If nothing else would avail it might be worth trial, but one would hesitate to apply it even then for such a prolonged period, it seems to me, without watching carefully the results.

In regard to the tightness of the bandage, let me add just a word. The patient constitutes the court of last resort. If she is uncomfortable, we have the bandage improperly applied. It should be applied with sufficient tension so that within a few minutes there comes at the distal side of the bandage a mottling of the skin due to the venous engorgement. This is

followed almost immediately by a certain amount of edema characteristic of venous stasis. This amount of engorgement must be secured to get any results, but under no circumstances must the arterial flow be shut off, otherwise disastrous results might ensue.

Dr. T. A. McGraw: I want to pass around some specimens I have taken from an aneurysm. That represents the sack that was made up here entirely of fibrin coming out in a cup-like shape. A man, ten weeks ago, had an aneurysm. He had in some way given a sudden twist and it broke the artery right off square. It was not simply a distention of the artery, so that this is really more like a traumatic aneurysm than an ordinary aneurysm. This was simply pounded fibrin, which peeled right out with the other clots of blood as soon as I opened the sac. As it was a fresh specimen, I thought it might be interesting.

Dr. F. W. Robbins: The interesting part of this case is the history. He came in here on March 1, an iron worker; and, by the way, he came in after his accident in all of his old working clothing. To-day he has been out to buy himself new clothes, and has been celebrating his recovery by taking more beer than he should. He was working on structural iron work at Kling's Brewery and was knocked off from the iron, falling into a pit on the ground; not very far, perhaps only 6 feet or so, across a wooden bar. Almost immediately he had a swelling of the scrotum and a darkened condition of the perineum. He was taken to a physician's office, and liniment, I think, was applied, or lead and opium wash over the scrotum. However, he celebrated and drank beer and could not urinate, and was brought into the hospital the evening of March 1. At that time his bladder was very much distended and the interns tried to enter a catheter, but were unable to do so, and pushed a trocar suprapubically into the bladder. Coming in the next morning, of course, there was no question about the diagnosis. The perineum was very much distended and blackened, the scrotum also blackened and distended, together with bleeding from the urethra. Therefore a diagnosis of ruptured urethra was inevitably made.

We made a perineal urethrotomy opening, and found the urethra entirely separated about half an inch in front of the bulbomembranous junction. Being so much infiltration in the perineum, it did not seem wise to try and suture the entire circumference of the urethra. I am not sure but it would have been just as well to have done so. After some little difficulty, we got both ends of the urethra, proximal and distal, put a suture in the roof, and then put a suture on either side of the first, so that something over one-third of the urethra was approximated. I then passed a tube from the perineal opening through the posterior portion of the urethra into the bladder. We left the tube in a couple of days and then began to pass sounds, being careful to pass the sound very gently along the roof where we had made our stitches, and we had no great difficulty in entering the bladder. Yesterday he urinated more freely, and I passed a full-sized sound very easily. To-day he has been out celebrating his new clothes, and he has been urinating, he says, with perfect ease, no urine coming through the perineal opening.

Here is the little mark where the trocar was put in. A good-sized trocar was introduced, and then a catheter passed through which just fitted the trocar, and this trocar removed and the rubber catheter left within. I thought it was done very nicely. I will pass the sound again to-morrow and allow him to go home, with the understanding that at least once in ten days for the next three months he will come and see me.

He is liable to have a stricture, and though traumatic strictures usually come quickly, they contract to a certain extent and then stop. They do not keep contracting as the strictures of gonorrheal origin do. I saw a patient not long ago that Dr. Hitchcock asked me to see with him, on whom we operated a number of years ago. There had not been any contraction for years, although there was a certain amount of contraction from the normal. I think it would have been possibly better if I had not feared sepsis in this case because of blood and urine leaking into the tissues. If it had not been for that I would have sutured the urethra entirely around, passing the catheter through the urethra into the bladder and not through the perineal opening. It might have been better, but I do not know. The proximal and distal ends of the urethra were about an inch apart. After I found the proximal end, there was not any very great difficulty in bringing the urethral ends together. We used catgut suture material.

Dr. W. E. Blodgett: This patient was well until six weeks ago, when she slipped on the floor of a house and hurt her right hip. She is

13 years old. She was able to continue walking and got up immediately and continued going to school that week and until the next week. At the end of that time her pain had grown so bad that she stayed at home, and was under treatment the next week for what was called fracture of the hip. The treatment was splint and bricks attached to the foot, because it was believed that the leg was actually shortened. I hardly need to illustrate, but I will say that one foot appears longer than the other one, according to the position of the legs with relation to the pelvis. That made four weeks. The next two weeks she was in bed without treatment, but unable to get up. She came here four days ago. An *x*-ray picture was taken. Dr. Chene, I hope, will speak of those *x*-rays. He took two pictures, and both pictures showed the appearance of an epiphyseal fracture. On the other hand, the physical signs were not consistent with this. There was no actual shortening of the right leg. The right leg, in fact, is slightly longer than the left. No limitation of motion in the hip, as I have demonstrated. No swelling, no ecchymosis, no elevation of the trochanter and none of the physical signs of fracture. She was, however, unable to stand up. She had some tenderness over the sacrum. She had the sacro-iliac sign and the Trendelenburg sign.

The third *x*-ray, taken very kindly by Dr. Chene, which he will explain to us, failed to show an epiphyseal fracture. The mechanical and optical reasons for the appearance in the previous radiographs I trust Dr. Chene will explain to you. The signs which she did have pointing to the diagnosis of a sacro-iliac sprain, are these: The hip with the knee flexed is normally mobile, although the extremes of motion are painful. As soon as the hamstrings are put on the stretch by extension of the knee so that the tuberosity of the ischium is pulled on through the hamstring muscles, you have a limitation of flexion of the hip, the so-called Kernig sign when due to nervous conditions, and sometimes called the sacro-iliac sign in sacro-iliac sprain. This is more marked on the right side than on the left, the symptoms being on the left, but it is present on both sides.

The diagnosis rests as much on exclusion of other conditions as upon any positive signs. The principal positive sign after all, in sacro-iliac sprain is immediate relief by appropriate treatment. These severe cases often do not improve if untreated, or if treated on some other supposition. In this hospital Dr. McGraw had allowed me the pleasure of taking care of another patient, who had been six months in bed, with hardly any relief by any means. Support of the sacro-iliac joint gave the almost immediate relief. This case was relieved in about one minute, so that she felt much better. Of course that may be attributed to psychical impression, but in view of other cases, and as she is a normal child, I think that is not likely. What we have done for her, in waiting for a more permanent method of support, has been simply this support of the lumbar spine by a rolled sheet, and I want her to tell us just how she feels when it is out and how she feels when it is in. How does it feel when it is out? She says, "It feels as though my back is hollow, as though it were caving in." In these cases rest in bed does not relieve the iliac joint, unless the lumbar spine is supported. We put on adhesive plaster and a folded sheet. A pillow is too soft. A more permanent thing that we are just planning to use is simply a girdle around the pelvis.

If I may call your attention to one fact about this sacro-iliac joint, it is at a level, in relation to the front about here, not as high as the crest of the ilium; therefore, compression should be applied lower than the crest. That works out in reference to corsets. A corset which is low and tight around the pelvis is helpful. This girl, for instance, says she feels better with corsets on, but the corset which is small in the waist and presses on the tops of the crest of the ilium will cause pain, therefore, any support needs to be worn at a low level, and the difficulty is, especially in a woman, to keep it low enough, it usually needs perineal straps. A belt which buckles at the back is rather preferable, because it draws the joints together better. This is not always enough, and sometimes besides compression of the pelvis, there has to be immobilization of the adjacent joints of the lower spine. Another principle of treatment which may need to be applied, and in this case is being applied by this pad, is forward thrust of the lumbar spine. It is usually in that position that the sacro-iliac joints are most at rest. The first step in the treatment is to abolish the pain without interfering with the child's activity. We want to have her on her feet without pain. The next step is so to strengthen her sacro-iliac outfit that she can

give up artificial support without return of symptoms.

The second step takes longer than the first step, and is dependent upon training in the military posture, which is self-support of the lumbar spine in exaggerated lordosis and the strengthening of the muscles and ligaments which normally support the joints. Such treatment may act favorably on ptosis of the abdominal viscera, which often occurs with sacroiliac sprain.

Dr. G. C. Chene: I have not much to say, except that the appearance on the first radiograph was due to the position of the patient's leg, while in the last examination we were cautious to have both limbs in identical positions, the asymmetry of both joints then was very apparent, and shown to be normal.

(Patient stands erect)

Dr. Blodgett: This will illustrate also the compensatory deformity of the spine, which disappears with cure of the sprain. In another case, Dr. McGraw and I had, the deformity was so very marked that it led us to believe that she might have a spondylitis. There is no limitation of motion of the spine, and no reason to believe that there is any disease of it. There is no actual luxation; it is just a looseness, and as soon as the weight pulls on it, there is just movement enough to hurt, and as soon as the joint tightens up the pain will stop. I think any infectious process would tend to increase the trouble there; any source of toxemia will always add to the pain. Of course actual inflammatory conditions in this joint are distinct from the mechanical conditions. Dr. McGraw saw the patient, and will vouch for the fact that she was much disabled and quite unable to stand; there is no doubt about that. She is otherwise healthy as far as we know.

Meeting of May 8

Dr. W. M. Donald: The case I show you here to-night is that of a Hungarian woman, aged 44; married, and the mother of a large family; who entered the hospital about three weeks ago, suffering from a case of multiple arthritis.

I purposely avoid the term rheumatic arthritis, although under the old nomenclature this case would be classified as such. The term "rheumatism," and the adjective "rheumatic," are being gradually consigned to a merited oblivion. They are relics of the old humoral pathology, in which the various ailments of the body were believed to be due to certain humors of the blood. The name rheumatism is derived from the Greek "rheuma," meaning a flux, and suggests at once the mistaken obsolete pathology of which we have spoken. The belief is gradually growing that joint lesions, except the metabolic forms of joint disease, are due to some infectious organism, having its primary focus either in the joint affected, or in some remote portion of the body, in which focus it breeds and grows, and finally finds more suitable environment in the joints and joint structures. Quite recently Dr. J. B. Murphy, of Chicago, has emphasized this point in a series of papers published in *The Journal of the American Medical Association*, and has suggested the use of a 2 per cent. solution of formaldehyd in glycerin to be injected directly into the joint itself for the relief of these inflammations and lesions. He has claimed remarkable success in his treatment of these affections by this method, and believes that the success comes firstly from the antiseptic action of the formaldehyd in the diseased synovial sac; secondly from a localized leukocytosis produced in and around the diseased structures, and thirdly from a generalized leukocytosis which acts by the stimulation of the phagocytic action of the blood.

This woman failed after three weeks of treatment to yield to any of our remedial measures. She was in a pitiable condition. All the joints of both her legs, the joints of her arms, of her fingers, and of her shoulders, were generally and severely affected, and she required the constant use of opiates to keep her even moderately comfortable. Strange to say, notwithstanding the severe joint inflammation, she showed little constitutional disturbance; the temperature never running over 100 or the pulse over 85. We could secure no history of an attack of gonorrhea, nor could we discover any of the gonorrheal organism in a smear from the vagina. She may of course have had an old gonorrheal infection, with the infecting organism locked up in the tubes or in the crypts of the uterus; but if she had she showed no clinical symptoms of the disease. We thus failed to find any focus of infection, and consequently we had to class the disease as a crypto-genetic form of infection, thus following Murphy's terminology. We tried faithfully on some of the most seriously affected joints the use of Bier's Hyperemia, applying the constricting band for periods varying from one to four hours, and, following the venous stasis, we induced arterial

hyperemia, secured by hot applications upon the diseased structures. This gave us practically no relief. As a last resort we determined to try Murphy's method of treatment, and three days ago we gave her an injection into the left knee joint, the joint most seriously affected. We aimed to give her 10 c.c. directly into the capsule of the joint, but to our poor technic may be attributed the fact that the woman received only about 2 c.c. most of which we believe entered the periarticular, rather than the real articular tissues. Buck's extension was applied, to put the joint structures at rest, and the patient was allowed to come from under the general anesthesia, which it was found necessary to administer to her in order to permit sufficient handling of the diseased and painful joints. The next day found her very much improved, both from her and our standpoint, and to-night I show you a patient who acts as if she were practically well. But three days have elapsed since the injection was given, and of course we do not know how permanent the relief is, nor do we know that the injection has caused the relief, but certain it is she is marvelously better than before she received the injection of the formaldehyd. The use of the general anesthetic, which in this case happened to be chloroform, must be considered as a relieving factor; how much of a relieving factor I am not prepared to say. The question of a coincidence would again arise as a possible curative measure, since we know that occasionally a spontaneous cure of these joints, worked by nature in some obscure way, will occur. To us, however, observing her closely, the relief and clinical improvement following the injection of the formaldehyd, were so immediate and so remarkable, that we have had forced upon us the belief that the injection of formaldehyd was the remedial agent that achieved the result.

I regret greatly that we did not have a blood count before we gave the injection, but one made 48 hours afterwards disclosed a moderately high leukocyte count of 10,000.

In this other case, which I show you, that of a young woman, aged 23, of Polish nationality and a domestic by occupation, we have a case of monarticular arthritis affecting the right elbow joint. This case was in the hospital a few weeks ago, suffering from a mild multiple arthritis, which was relieved by ordinary simple measures of rest and the salicylates, and she went out after a few days' treatment. She returned on May 1 with the left elbow enormously swollen and excessively tender, with a temperature of 100 and a pulse of 85. Ordinary, so-called, anti-rheumatic treatment, gave her absolutely no relief, and four days afterwards we injected directly into the elbow joint 10 c.c. of the 2 per cent. solution of formaldehyd and glycerin. Here again we found it necessary to administer the injection under a general anesthetic, inasmuch as the patient was highly neurotic, and became quite hysterical at the sight of the injecting needle. A right angle splint was applied to the arm, and afterwards it was supported upon a pillow. In this case, before injection, we took a leukocyte count, and found it 10,000; 24 hours afterwards it had dropped to 8,000, thus seeming to controvert Murphy's idea of an increased general leukocytosis; 48 hours afterwards the count showed a rise to 9,000. Notwithstanding this lowered leukocyte count, the patient within 24 hours was vastly improved, and within 48 hours from a suffering, crying, hysterical female, became a docile, even-tempered, smiling patient. The clinical result has been almost as good in a corresponding time in this case as in the first.

These of course are only preliminary notes on these cases, since of course enough time has not elapsed to permit us to tell the ultimate outcome of the cases. We simply present them for what they are worth, believing that they suggest a somewhat remarkable vista of possibilities in the therapeutics of joint affections.

Discussion of Dr. Donald's Remarks

DR. W. E. BLODGETT: Such antiseptic treatment as used in this case by Dr. Donald would presumably apply only to arthritis of parasitic origin. It needs therefore to be remembered that, in the classification prevailing among orthopedists, the traumatic joints, and the hypertrophic and atrophic joints do not come under this head. It is true that the majority of cases of joint diseases of systemic origin are of the toxic variety, but of these there seems to be two subdivisions, the metabolic joints, and the truly infectious joints. Metabolic toxic arthritis is typically afebrile; parasitic toxic arthritis, i. e. infectious arthritis, usually goes with slight fever. Injection of antiseptic fluid could hardly be expected to benefit any joint diseases except infectious arthritis.

This, I think, is a case of infectious arthritis suited to this treatment. I should say that we must hesitate in attributing the undoubted improvement to the injection of the formalin

solution. Relief of infectious arthritis simply under rest and hygiene is not uncommon, and a series of cases of immediate relief after a general anesthetic has been reported. This patient had a general anesthetic, but no cleansing of the bowels.

Advance work like this it seems to me is very creditable to Dr. Donald, and I am thankful to him to be associated in it. I trust we can have a later report.

Syphilitic Bone Disease

Dr. W. E. Keane: This patient, Louis W., aged 24, came to the out-patient department of the hospital two days ago, suffering intense pain in the lower left thigh.

He said the pain came first about three weeks ago and since its onset it has increased in severity, until now he is unable to sleep.

No history of injury or rheumatism but admits a chancre two years ago. Palpation reveals a prominent thickening of the femur a few inches above the patella and pressure causes pain.

He was referred for radiography to Dr. Geo. Chene and the picture we present, illustrates clearly a bone disease, which we believe to be syphilitic periostitis. The blood tests have not as yet been made but we felt so positive since the *x*-ray has been taken that the patient has been put on a generous dosage of mercury and iodids, with a local iodin ointment.

What makes this case out of the ordinary, is the appearance of bone lesion so early after the chancre.

Syphilitic bone disease as we know is either an early hereditary manifestation or a late lesion of the acquired form. We have excluded giant cell sarcoma, tuberculosis, osteomyelitis.

The case illustrates plainly how much we are dependent on the *x*-ray for aid in luetic bone disease.

Dr. A. W. Ives reported a case showing a peculiar form of aphasia, whom he had expected to exhibit, but who had left the hospital just an hour before.

On his way from Montana to the east, patient had been attacked suddenly with inability to say any words other than "yes" and "no," which he would repeat indiscriminately, and with great earnestness, in response to any and every question asked him. His right hand was also slightly affected so that he could not write well, but he made the effort to do so, as he also did with his left hand, succeeding well enough with this latter, to enable us to read his name. When we told him that his son was coming to take him back home to Montana, he showed every sign of intense joy, repeating "yes, yes, no, no," with great vehemence. A diagnosis of a small hemorrhage involving the first temporal lobe on the left side (the auditory memory center), affecting slightly Broca's center, as well as the hand center, was made.

A case, bearing relation to the case to be exhibited, was also reported as follows: A few months ago I was called to examine for life insurance a man in supposedly good health at his place of business. First noticed what seemed to me unwarranted, continuous smile, in walking across the room to hang up his coat, thought his gait somewhat unsteady, he said his gait was as it had always been. He showed scars of a recently recovered-from herpes zoster, on one side of the body. He said that about a year ago he had suffered from what his oculist said was neuralgia of the eye ball, in response to further questioning, he said that the symptoms at the time were drooping of one eye lid and, for a time, diplopia, however, because of a letter from his occulist as to the character of the disease, he had since that time received life insurance for a large sum. Further examination showed unequal, immobile pupils, and decidedly increased patellar reflexes, also it took him about five minutes to pass about one ounce of urine. A diagnosis of Paretic Dementia was made to the Insurance Company. He is reported to be getting progressively worse.

A case was then exhibited, brought in on a stretcher, who about two weeks before had been brought into the hospital in an unconscious condition, with head drawn back, neck rigid, and painful on attempted extension, eyeballs rolled back, pupils unequal and irresponsive, Kernig's sign present, also "tache cerebrale." Very little history could be obtained, except that he had one or two previous similar attacks, from which he had recovered, also several epileptic siezures; he had also had a previous hemiplegia, and aphasia from both of which he had recovered. A diagnosis at this time, before the class, of paretic dementia, was made of which the apoplectiform seizure and the meningitic signs were symptoms, and prognosis of return to consciousness, in a more or less demented condition, such as we now see him, with paretic speech, unequal, irresponsive pupils, and greatly exaggerated knee-jerks.

DR. W. J. WILSON, JR., then exhibited a patient with a mitral lesion in whom an aortic regurgitation was discovered by using some of the newer instrumental methods of cardio-vascular diagnosis. Tracings were taken from the radial and jugular pulses by means of the Jaquet cardio-sphygmograph. A typical Corrigan pulse tracing was secured from the radial, and on taking the blood-pressure, with a systolic blood-pressure of 125 mm., a diastolic blood-pressure of 45 mm. was secured. A pistol-shot sound was also heard in the femoral, but there was no capillary pulse. The taking of the blood-pressure by the auscultatory method was then demonstrated. Using a Mercer sphygmo-manometer, and placing the bowl of a Bowles stethoscope on the brachial artery just below the arm cuff, the different sounds produced by varying the pressure in the air chamber are noted: it being understood that above the systolic and below the diastolic point, no sounds are heard.

Korotkow, the author of this method, describes five phases from the systolic point down. 1. A sound not unlike the first cardiac sound. 2. This same sound plus a hissing murmur. 3. The murmur disappears and only the sound is heard. 4. The sound suddenly becomes very much muffled. 5. The sound disappears. By this method readings are secured which are from 5 to 10 mm. greater in both the systolic and diastolic phase, the diastolic point can be accurately determined, and readings can be secured in children and very low pressure cases in which the palpatory method is of little value. It is to be remembered that in some cases of aortic insufficiency, of which we have an example in the hospital now, there is not a fifth phase but the thud with each pulse wave is heard even when the mercurial column is at zero. Some remarks were then made as to the venous pulse. Normally in the venous pulse we have three waves, the A wave due to the contraction of the auricle, the C and the V waves. When the wave is absent we have the most serious type of venous pulse, the nodal type, in which the auricle is inefficient; when it is present, the pulse is said to be of the auricular type. The stimulus which originates the contraction of the heart muscle begins in the openings of the great veins, and when we have an irregularity which develops at this point, we speak of it as sinus arhythmia: viz.: the respiratory arhythmia of childhood; the heart beating more rapidly in inspiration than in expiration and which is of no pathological significance. When the irregularity developes below this point, the fundamental rhythm being maintained at the sinus, it is usually due to an extra systole by which we mean a premature contraction of the auricle or ventricle, which may originate in the auricle, ventricle or node. When conductivity is increased the A-C interval which should be one-fifth second is increased. When contractility is interfered with, large and small beats may alternate, the so-called pulsus alternans which is of serious import.

By means of a careful study of the heart and blood-vessels by the newer methods, a rational therapeusis may often be instituted, and while a cardio-sphygmograph is out of the reach of the ordinary physician, a blood-pressure apparatus should be in constant use by every careful practitioner.

DR. W. E. BLODGETT: This patient, Mr. S., has a syphilitic polyarthritis; in this type of infectious arthritis, appropriate treatment, by mercury and iodids, gives surprisingly good results not only by the relief of pain, but often also by restoration of painless, controlled mobility in joints that seemed to be ankylosed. This therapeutic action explains the favorable result of injection of mercury in certain cases of so-called arthritis deformans, and explains likewise failure in other cases of so-called arthritis deformans, on account of unrecognized etiological difference. In this patient, under seven grains doses of iodid of potassium and 1/12 grain doses biniodid of mercury, three times a day, with temporary bandaging and splinting, the knees and left elbow, which were all the affected joints, became painless more than a year ago, and the elbow which was the only stiffened joint, made a surprising total increase in mobility. From being useless, the elbow became so useful that in a few weeks Mr. S. resumed his work as a heavy teamster. While pitching a bale of hay into the loft of a barn, he hurt the elbow three weeks ago, and it is now painful for the first time since commencement of treatment. This injury accounts for the plaster bandage on the elbow. The radiographs, one by Dr. Chene, show that the process in the elbow is really an osteomyelitis, rather than an arthritis, as is characteristic of these cases. The radiographs were taken a year apart, and show the structural improvement under treatment.

The special interest in this case is in this tumor of the right clavicle. About 2 weeks ago,

when Mr. S. was lifting a coal hod, he was taken by a sharp pain in the clavicular region; it had been swollen before, but not painful, and he had not mentioned it. The tumor is of course a gumma in the bone, and the pain is from a pathological fracture. This is confirmed by this excellent *x*-ray, taken by Dr. Chene.

WAYNE COUNTY MEDICAL SOCIETY

At the general meeting of the society on the evening of May 6, 1912, Dr. James D. Matthews read a paper entitled "The Ambulatory Treatment of Fractures of the Lower Extremities," and Dr. George H. Palmerlee read a paper entitled "The Operative Treatment of Fractures."

The following nominations were made for officers of the society for the coming year: for president, E. W. Haass; for vice-president, L. J. Hirschman; for secretary-treasurer, F. H. Newberry, R. L. Clark.

The election takes place on the evening of May 20.

President Schenck appointed W. J. Wilson, Jr., F. T. F. Stephenson and George W. Irvine as a committee to study the question of the deterioration of certain drugs. This committee, after studying the question, will attempt to induce the manufacturers of certain pharmaceutical preparations to adopt their recommendation as to the dating of these preparations so the consumer may know when they cease to be active.

President Schenck also appointed F. W. Robbins, W. P. Manton, T. A. McGraw, C. G. Jennings and Harold Wilson as a committee to study the question of fee splitting. This committee will report at the first meeting of the society in October next.

Dr. Angus McLean demonstrated an *x*-ray plate by Dr. P. M. Hickey, in which the fetal skeleton of an extrauterine pregnancy could be seen. The case was one of disputed diagnosis. Dr. McLean successfully operated.

President B. R. Schenck and Secretary R. C. Jamieson presided.

Ninety members were present.

Ambulatory Treatment of Fractures of Bones of the Lower Extremities or a Mode of Enforced Locomotion

By James D. Matthews.

Perhaps in no department of surgery has there been less progress than in the treatment of fractures—teaching along this line having been sadly neglected—and we welcome any innovation which proves in any way meritorious. The old custom of taking a chance in the coaptation of fragments of bone and trusting to Nature for the rest, is happily assuming its true place among the discarded methods of the past. Today, the surgeon who attempts to do fracture work must possess, as his mental equipment, an accurate knowledge of the anatomy of the parts he is called upon to adjust.

When the bony framework is injured at any point, or is disturbed in its symmetrical arrangement, then muscular action is interfered with; and, as a natural result, we have a cripple to greet us, and, in many instances, the crippled condition is due to faulty technic. Many bad results coming under observation from time to time are not due to the fact that the bones cannot be kept in position, but to the fact that the bones were never properly apposed. Bone tissue must be apposed to bone tissue before a callus is formed. Union will always take place if ends of bones go together.

The ambulant splint in the treatment of fractures of the bones of the lower extremities is applied, as follows:

The patient is lifted up from the table and placed on a box about 8 inches high and large enough to support the head, shoulders and trunk, the pelvis resting upon a sacral support especially made; the legs extended are held by assistants, or better, by extension rods and supports under each leg, particularly the injured limb at point of fracture. This support may be covered in by the mould. An anklet, or cuff, is put on each ankle with extension straps extending to a fixed point beyond the foot. The counter extension is carried out by a folded sheet passing around the perineum and attached to a fixed point beyond the head of the patient. The proper measurements are now made and sufficient abduction to approximate the angle at which the fractured leg should be fixed. The leg and pelvis are then wrapped in sheet wadding, over which is applied a 4-inch flannel roller bandage tolerably firm. Then the gypsum mould is applied, beginning at the foot and continuing up to the level of the anterior superior spine.

During the past two years, I have treated simple fractures of the femur and tibia by the ambulatory method, using a snugly applied gypsum mould reaching from the superior crest of acetabulum to, and enclosing the foot.

By adding an extension sole to the shoe, the patient is permitted to walk about during the period of convalescence. Now, some of you may be disposed to condemn this as dangerous practice, but I want to state most emphatically that this plan is both practical and efficient, and surpasses all other methods dealing with these fractures. In case of failure in this plan, it can be attributed to unskilful and careless application of the splint. Another point in applying a gypsum splint for fractures high up, is to have a properly arranged apparatus for holding the patient in position, and with adequate traction while the mould is being appli

The advantages of the ambulatory method of treating fractures of the lower extremities are many: time is saved the businessman, inasmuch as he is required to give up only about a week to the fracture of a leg. Also, less time is spent in a hospital. Krause makes the assertion, "In the treatment of fractures of the middle and upper thirds of the leg, the ambulatory method shows a great advantage in the period of consolidation, as well as in the time required before the patient can return to work. It seems that the higher up in the leg the fracture is, the sooner a cure is effected by the ambulatory method of treatment."

There is less impairment to the general health as contrasted with static methods where appetite and general discomfort prevail. In old people, the danger from hypostatic pneumonia is diminished; the primary swelling associated with fracture is much lessened, and, in many cases, altogether avoided; the functional usefulness of the whole leg is conserved, owing to the fact that there is less atrophy of the muscles of the leg and thigh; union takes place at an earlier date and there is less likelihood of shortening and less stiffness of the neighboring joints. An extension gypsum mould of the whole extremity, including the thighs or acetabulum, does away with such impedimenta, as extension apparatus, sand bags and daily or tri-daily dressings. The patient, as a rule, can walk about after the fifth day. There is no other way of reducing the deformity except by the employment of a major mould. From experience in this method of dealing with fractures, I am firm in the opinion that the method is deserving of the careful consideration of all physicians who are called upon to treat this particular surgical condition.

The Operative Treatment of Fractures

By George H. Palmerlee

The treatment of a fracture is of the utmost importance. Instead of treating them in an indifferent manner and trusting to fortune for good result, the surgeon should give them his individual attention, as much as he does abdominal operations.

I do not assume that all simple fractures should be operated upon, if the radiograph shows the ends are in fairly good position and there is no shortening and a probability of good function without crippling deformity I believe it is a safe rule to let well enough alone, but if it is an oblique, spiral or a comminuted fracture and it cannot be maintained in position, and there is shortening and displacement, which tends to recur, I do not hesitate to cut down and fix the fragments by means of a plate and screws or by other means.

Various materials have been used in fixing the fragments. Silver wire is probably the most common suture used. Bronze aluminum wire has been used and highly praised by some; it is strong and can be twisted up very tight without breaking. Kangaroo tendon is recommended and I think in cases where there is not much tension it is possible that kangaroo tendon might be given the preference over a non-absorbable material.

Long screws or nails are indicated where a piece of bone is broken off, as for instance, fractures of the malleoli and great trochanter and neck of femur; but where there is much strain, as there is on the shaft of a long bone, the plate is by far the most satisfactory. Murphy uses nails in Pott's fractures and in fracture of the neck of the femur and humerus.

The advantages of the operative treatment in selected cases are that better results are obtained; there is a noticeable absence of pain. Fragments of muscles are easily removed from between the ends of the bone, which would prevent union taking place; injuries to nerves, and repair of muscle, tendons, and blood-vessels are possible; removal of spiculæ and relief of tension in the surrounding parts due to extravasation of blood; the skeletal mechanics are restored to normal. It affords an opportunity to remove all obstacles which prevent reduction by any other method. Shortening is prevented. If the fracture involves a joint there is less liability to be impaired motion in same.

There are certain well-defined indications for operative interference, but the patient will be infinitely better off to be treated conservatively, than to be operated upon by some one who is not thoroughly grounded on the technic. Therefore I would advise under most circumstances that more skill and care be used in the non-operative treatment.

Aseptic technic must be carried to its extreme development. The preparation of the site of operation should be thorough; wash the part to be operated on the day before the operation with soap and water, shave if necessary, and bathe with 70 per cent. alcohol, apply sterile pad. Use ether, alcohol 70 per cent. and iodin just before making the incision.

The fragments are approximated by means of elevator, and long bone forceps devised for that purpose, the plate is now placed over the periosteum, and the bone and plate held with a bone and plate holder; the holes can now be drilled and screws put in with very little trouble.

Plates as designed by Lane are steel of various sizes and shapes for the different bones for which they are intended.

Closing the wound.—The deep fasciæ and muscles should be carefully closed with catgut suture without drainage. A splint is applied as usual.

Compound fractures, in my opinion, should be treated expectantly until it is evident that no infection is present before putting on a plate.

Summary.—More simple fractures should be operated on.

Operation should not be undertaken except in a well equipped hospital, and with the most strict asepsis.

Any fracture which cannot be reduced or which when reduced recurs, should be operated without hesitation.

The noticeable absence of pain is very striking.

An exact diagnosis can be made and any obstacle interfering with union or accurate approximation can be removed.

Foreign bodies and spiculæ are easily removed and injuries to adjacent nerves, tendons, and muscles may be easily repaired.

Period of disability ultimately very much shortened in many cases.

Tension due to extravasated blood is at once relieved.

Do not operate until all other means have failed.

DISCUSSION

The papers were discussed by Drs. F. B. Walker, Angus McLean, G. E. Fay, P. M. Hickey, F. W. Robbins, C. D. Brooks, Rolland Parmeter and F. Suggs.

Dr. F. B. Walker in opening the discussion said: The subjects of the papers presented this evening do not include the diagnosis of fractures and yet the essayists have insinuated the need of correct diagnosis as preliminary to successful treatment. I not only assent to that but also affirm that diagnosis should consist in not simply the knowledge that there is a bone broken but in addition the exact site and nature of the fracture. In determining those facts we now have recourse to the *x*-ray, by means of which our knowledge far exceeds that obtainable a few years ago. Still we should not fail to make use of the other and older means of examination, such as inspection, palpation, comparison and measurement, for they will be needed at various times all through the treatment and are more convenient than the *x*-ray.

The treatment of fractures, whether ambulatory or operative, really begins with their reduction. I venture the opinion that it is in the failure to reduce fractures and to bring the broken fragments into alignment that we as a profession most often fall down. If there be any chance of criticism in any case it is liable to be for lack of reduction. We give fractures enough treatment but without first setting the bones right.

Dr. Matthews has presented very well the ambulatory treatment of fractures. My experience with this method has been limited to the observation of two cases. I believe it is a method deserving of more consideration and I shall give it more attention in the future. I shall not, however, adopt it as a routine, because I am not so sure but that rest in bed for a reasonable time is not only not harmful but also beneficial in many cases. There are other cases though that do badly in confinement.

The Eccles apparatus that the doctor has exhibited is to my mind an admirable means for reducing fractures of the lower extremity and should find wide use.

Dr. Palmerlee has called attention to the need of having special instruments, hospital facilities and thorough asepsis in treating fractures by the open method. I consider such fac-

tors as absolutely necessary to successful work. Mr. Lane has developed a technic for this kind of surgery. We can do no better than to follow his directions. If I were to disagree with the essayist it would be regarding the time of operation. I have opened fractures at various times from the first day to four months. Results count, and, if the doctor's results are better by earlier operations that is the time for him to operate. In my opinion the most favorable time is from about the seventh to the tenth day after the receipt of the fracture, in the cases of the long bones, at which time the patient has developed some resistance to infection. It may be that, by later operation, the sinuses he referred to would not have resulted.

Like the essayist I do not give operative treatment to all cases, nor do I treat them in that radical manner if simple measures will do. I am just now treating by a new form of extension a fracture of the femur, in which adhesive straps from the foot to the middle of the thigh were used first but without success. There was overriding and two inches of shortening due to the indirect extension. That is, the weight pulled the skin and through the underlying soft structures the skin pulled the bone. The method I used consisted in driving a steel nail eight inches long, transversely, through the femur above the condyles. By experiments on a cadaver I found that nails driven into the condyles one on each side, after the method of Steinemann, were not solid. The spongy bone gave way. But when a nail is driven through the shaft it remains fast in the compact bone on each side. Two weeks ago I drove a nail like these I show you through the femur by subcutaneous operation and was able to make direct traction on the very structure that was broken and needed extension. A small rope was attached to each end of the nail and traction on the distal fragment made by pulling in the usual manner. The results so far are satisfactory.

In another case of fractures of both tibia and fibula near the ankle it was difficult and indeed impossible by ordinary methods to effect the needed extension. In that instance we fastened a padded wooden sandal to the sole of the foot by a plaster cast encasing the foot. Then by means of a rope, that had been previously attached to the sandal, traction and extension was easily obtained.

Last Saturday I operated on a case of malunion of a comminuted fracture of the femur of eleven weeks' standing. There was a shortening of four inches. A Lane plate could not be easily adapted. Instead an ivory peg was inserted through the adjusted fragments and two ligatures of silver wire were tied around and twisted. The shortening was reduced to two inches and the deformity was materially corrected. Considerable bone and callus were removed.

Dr. C. D. Brooks: All fractures should be treated as individual cases. Preconceived ideas concerning such are often harmful to patients.

Fractures should not go long before being treated by the open method if the position is not good as shown by the *x*-ray.

All fractures should be rayed when possible, both before and after reduction. By so doing we may save our patient many weeks of costly convalescence.

The metal bone plates are ideal in many cases, and if the tissues are not traumatized at time of operation will seldom need removal, in other cases where extensive injury to the tissue exists at time of fracture the plates may need to be removed.

It will be easier in some cases to use ivory pegs or screws, or nails to unite these fragments, often these may be used with less manipulation than the metal plates. We are inclined to use the smaller plates and screws if they will fulfil the purpose, and have on several occasions used two small plates.

In fractures of olecranon process and patella it is seldom necessary to use anything more than chromic catgut.

The correct anatomical position must be used after ends of bone are approximated. We favor plaster cast in all suitable cases, and cut this wet so that limb may be inspected and passive motion given when necessary.

The open method of fracture should never be attempted by those not skilled by long training in surgical technic, except in emergency cases. Such attempts are not followed by good useful limbs and discredit is laid at the door of the operator, where it often belongs.

Dr. Rolland Parmeter: To appreciate the wide interest in this subject one has but to note the numerous articles appearing within the past year. Recently the French Surgical Congress has most thoroughly discussed the subject of the operative treatment of fractures. My own experience dates from the successful application of a silver plate to an ununited fracture of the tibia, in 1908, which had re-

sisted all efforts to obtain union. The patient had been practically bed-ridden for a year previous, in a hospital in a neighboring city. I believe this to be the first application of Lane's principle in Detroit.

The use of the *x*-ray and its interpretation by an expert both before and after operation are indispensable, particularly in this line of surgery.

Whether we use Lane's or Sherman's plates, silver wire, nails, dowels, chromic gut or magnesium plates according to Murphy, the principles of aseptic surgery must be strictly adhered to, infection must be absolutely excluded if good results are to be obtained. If one cannot operate with absolute confidence in his technic, he should not operate on fractures.

The use of the Lambotte clamp greatly facilitates one's technic. They hold the plate in place while it is screwed on, thus fulfilling a principle in mechanics that to get the full holding effect from screws the substance to be fastened together must be rigidly clamped in position when the screws are introduced.

The period that should elapse following fracture, before operative interference, should be about eight days, thus allowing time for the absorption of extravasated blood and the subsidence of any possible injury to the skin.

I believe I would operate on fractures only for disunion, deformity with interference of function or irreducibility. Fractures of the patella, olecranon and external condyle of the humerus I believe should always be looked upon as operable.

As contra-indications for the operative treatment of fractures, perhaps extreme age, diabetes, albuminuria and disease of the heart and arteries should be mentioned.

The procedure is one fraught with many advantages to the patient in properly selected cases but it carries with it many disadvantages if improperly applied or if attempted by the pseudo surgeon.

At the meeting of the Medical Section on the evening of May 13, 1912, Dr. G. W. McCaskey, of Fort Wayne, Indiana, read a paper entitled "Some Observations on Pernicious Anemia." The paper was of the highest possible interest, and we are indeed debtors to Dr. McCaskey for his effort in our behalf.

Preceding the lecture a complimentary dinner was tendered to Dr. McCaskey by Dr. E. W. Haass, at the Medical Building.

The following gentlemen were chosen as officers of the Medical Section for the coming year: Chairman, Hugo A. Freund; Secretary, J. H. Dempster.

Chairman James Cleland, Jr., and Secretary R. L. Clark presided.

One hundred and four members were present.

Some Observations on Pernicious Anemia

Dr. G. W. McCaskey, Fort Wayne, Ind.

The anemias are really the *bête noires* of medicine. The investigations of the last few years have not uncovered their true pathology, but they have elucidated the subject and perhaps indicated the direction for final solution. Their classification is unsatisfactory. Their nomenclature should be based on etiology. The denominations, "primary" and "pernicious" are scientifically meaningless.

The characteristic changes of blood in pernicious anemia are well recognized, as to the constancy and significance of these changes there is a diversity of opinion. A very great reduction in the number of red cells is absolutely constant. The count always ranges as low as one to two million during the exacerbation up to two and one-half or three, rarely reaching four million during the remissions. I have never seen an excess of four million during the period of greatest improvement. In ordinary types of anemia with a low hemoglobin content the red cell count ranges from three to four and one-half million.

Accompanying low red cell counts, there is a considerable increase in the size of the cells. The average measurements in my cases have been increased. The average measurements in my cases have been eight and one-half to nine microns. The megalocytes outnumber the microcytes, the latter are often so minute that their total volume and functioning surface are negligible. I believe that the hemoglobin in the stroma of the erythrocytes in pernicious anemia is not of greater than normal density. The total hemoglobin is rarely reduced equally with the red cell count. The highest color index that I have found is 2.5. Poikilocytosis is not peculiar to pernicious anemia. Of highest importance is the persistence in the blood of nucleated red cells, they are however without significance for the purpose of differential diagnosis.

The presence of the large nucleated cells, megaloblasts, during certain blood crises, are essential to the diagnosis of pernicious anemia.

I adopt and accept Ehrlich's definition of a megaloblast and think that when found as rare cellular constituents of normal adult bone marrow they possibly represent localized embryonal rests or even reversions. Certain toxins may produce a megaloblastic degeneration of the bone marrow or a fatal hemolysis. Experimentally, ricin and saponin, and clinically, a toxin secreted by the bothriocephalus latus can produce this result. The rapid destruction of red blood cells which is the most important incident of pernicious anemia is shown by the liberation of iron and its deposit in the liver and other organs. This is further shown by the hyperplasia of the red bone marrow. In the disease in question the blood reverts to its embryonal type. The view that the spinal cord lesions of pernicious anemia are the result of the anemia and not of the toxins I do not think tenable. I believe the spinal cord lesion and the anemia are due to one and the same cause—a toxin.

The paper was discussed by Drs. H. A. Freund, E. W. Haass, W. J. Wilson, Jr., G. E. McKean and C. D. Aaron.

At a previous meeting the House Committee reported the following gifts:

To the House

Photo of Dr. Carl Brumnie, from Dr. David Inglis.

Thermometer, from Dr. E. Amberg and J. F. Hartz Co., each.

Picture of Dr. George P. Andries, from Dr. W. R. Chittick.

Picture of Dr. Donald Maclean, from Mrs. Donald Maclean.

Three pictures, from Dr. George Duffield.

Lithograph of vaccine pustule, (loan) from Dr. A. W. Ives.

To the Library

Reprints from Dr. E. K. Cullen.

Unbound files from Mr. Leonard Seltzer.

One hundred and sixty-seven bound volumes and unbound files from Dr. George Duffield.

One hundred bound volumes from Mrs. R. A. Jamieson.

Unbound files from Dr. B. P. Brodie.

One hundred bound volumes from Dr. Harold Wilson.

Two hundred fifty bound volumes from Dr. E. S. Sherrill.

One bound volume from Dr. W. H. Morley.

Two bound volumes from Dr. C. J. Dees.

Twenty bound volumes from Dr. Knapp.

One hundred eighty-seven bound volumes and unbound files from Mrs. J. Flintermann.

One bound volume from Dr. Thaddeus Walker.

Four bound volumes from Dr. Hawkins.

A unanimous vote of thanks was voted to the donors and the secretary instructed to so inform them.

At the general meeting on the evening of May 20, 1912, Dr. David Riesman, of Philadelphia, read a paper entitled "High Arterial Pressure." The paper was of extreme interest, and was presented to one of our largest audiences of the year.

Preceding the meeting a complimentary dinner was given to Dr. Riesman by Dr. Louis J. Hirschman.

The annual election took place at this meeting and resulted in the election of the following officers:

For president, Ernest W. Haass; for vice-president, Louis J Hirschman; for secretary-treasurer, R. L. Clark.

These officers will be installed at the first meeting of the society in September.

On vote of the society, Frank Suggs, U. of Ark. '97, Detroit, was admitted to active membership, his name having been properly passed on by the board of directors.

Dr. Hugo A. Freund presented a pathological specimen preserved in a new preserving fluid, the advantage of which is that the fluid makes portions of the specimen translucent to different degrees, thus the different organs in a fetus, for instance, are distinctly discernible and can be easily recognized.

President B. R. Schenck and Secretary R. C. Jamieson presided.

One hundred and fifty-six were present.

High Arterial Pressure

David Riesman, M.D., Philadelphia, Pa.

Heart failure taken by itself is an extreme rarity. The blood vessels have a large share in the maintenance and control of the circulation. Clarity has been brought to this field by joint physiologic, pharmacologic, bedside and pathologic study. I prefer the term arterial pressure to arteriosclerosis. High arterial pressure is a relative term, sex, age and other factors must be taken into consideration. This

is the day of accurate measurement so we make use of the sphygmomanometer. This instrument is to the blood-pressure what the hemocytometer and hemoglobinometer are to blood. No instrument for measuring blood-pressure is absolutely perfect, all are subject to the influence of the personal equations. Two pressures are usually taken, the systolic and the diastolic, the two methods of taking them, palpatory and auscultatory, are those in common use. For practical clinical purposes it is usually sufficient to take the systolic or maximum pressure. In a few instances, as in aortic insufficiency, the estimation of the diastolic pressure may be of value, but for the most it is not necessary to take the diastolic pressure.

To take the pressure by the palpatory method: we compress the brachial artery with the pneumatic cuff until the finger no longer feels the pulse at the wrist or until after obliteration by air pressure, the pulse reappears. It is wise to make a reading both ways and take the mean. In the auscultatory method, the bell of the stethoscope is placed below the cuff over the brachial artery and the vessel ausculted for the first returning sound as the pressure on the artery is gradually released. By the auscultatory method, the systolic and diastolic pressure can be obtained with any make of instrument that uses a compressing cuff around the arm. By the palpatory method, the systolic and diastolic pressure are not easily obtained with instruments that do not have a visible mercury column. The auscultatory method registers the pressure about 10 mm. higher than that of palpation. Under ordinary circumstances the palpatory method is entirely satisfactory.

To know what high blood-pressure is, it is necessary to know the standard. An observer of one thousand healthy individuals finds the average to be as follows:

Ages 15-30	Blood-pressure 115 mm.
Ages 30-40	Blood-pressure 127 mm.
Ages 40-50	Blood-pressure 130 mm.

For women of the same ages the blood-pressure is from 8 to 10 mm. lower. Age, sex, mental state, posture and many other factors have an influence.

Preventive medicine finds its greatest benefits in those suffering from hypertension. We should urge men and women over forty to send urine for examination two or three times a year, and to have their blood-pressure taken twice a year. A pressure of 150 or over is pathological under fifty, a pressure of over 160 is pathological at any age.

Under excitement or fear, after a heavy meal or active exercise, the pressure rises temporarily, often 50 mm. or more. Due allowance must be made for such transitory variations. Chronic interstitial nephritis bears an unquestionable relationship to hypertension, but in what way the disease of the kidneys acts to bring this about is not settled. The chronic parenchymatous type of nephritis also raises the pressure. Hypertrophy of the heart is found as an almost constant feature of chronic Bright's disease. The theory of hypertension in nephritis may be expressed by saying that in chronic nephritis some pressor substance circulates in the blood, which causes a spasm of the vessels. This is but an hypothesis, for a pressor substance has not as yet been demonstrated. Many believe this substance to be epinephrin. If there is an excessive amount of epinephrin in the blood it remains yet to be explained why the epinephrin content is increased. Another cause of persistent hypertension is arteriosclerosis. I do not consider alcohol by itself a serious factor in the production of high arterial tension. The symptoms most prominent in my cases were respiratory or gastric in nature. I have the impression that in about one-half or two-thirds of my cases they came complaining of indigestion or bloating after meals. Some had vertigo or numbness and tingling of the extremities. The women had usually been treated for stomach trouble. On examination the men usually have large solid-looking chests, the women have heavy pendulous breasts, both are overweight. The urine may reveal nothing abnormal except a moderate increase in quantity. Pratt, of Boston, has called attention to the fact that these patients pass much larger amount of urine during night than day. Hypertrophy of the heart, which is always present, is frequently overlooked. It is overlooked because we fail to palpate and to percuss the heart. To palpate and percuss the heart is quite as important as auscultation. Hypertrophy cases having no visible or palpable arteriosclerosis are particularly prone to anginal attacks, to coronary sclerosis and to thrombosis. Retinal hemorrhages, or visual disturbances dependent on them are often the earliest symptoms of which a patient is cog-

nizant. Some patients have normal eyegrounds. The treatment of hypertension is of great practical importance. Any attempt to depress blood-pressure to its norm for the individual is both irrational and harmful. All that we may safely attempt is to lower the pressure to the point where the symptoms cease, and to keep them there. The most important weapon in our hands is rest, mental and physical. Diet is of importance, more though from the point of quantity than quality. Food causing indigestion and fermentation, nitrogenous and purin containing foods are to be avoided. A small evening meal is important. I am more afraid of tobacco than alcohol, but probably both should be interdicted. Tea and coffee should also be omitted. For the bowels, salines are useful. Phenolphthalein and rhubarb. or compound liquorice powder are not to be forgotten. Baths are of doubtful value.

The nitrites probably stand at the head of the list of drugs. Sodium nitrite and erythrol tetranitrate are powerful vasodilators and may be given over a long period in ascending doses. The iodids are of value too, I give them routinely, though their method of action is unknown. I prefer the sodium salt given two hours after meals in water or milk. Digitalis is not indicated except when the heart shows signs of yielding and the urine is scanty. Venesection has in the last few years again become popular. It is safe to abstract in these cases up to a pint of blood. The relief from symptoms is often magical.

A New Method of Preserving Transparent Specimens

Dr. Hugo A. Freund

I desire to show a speciment of a transparent fetus. This is an example of a new method of making tissue transparent. This method was devised by Professor Spalteholz. His purpose was to clear up certain anatomical questions, which had hitherto been in doubt. It consists of taking any specimen that has been fixed in the ordinary manner and then decalcifying, if it contains bone. Next the tissue is placed in a bleaching solution, peroxide of hydrogen. The tissue is then dehydrated, by successively placing it in 70 per cent., 96 per cent. and finally absolute alcohol. The next step in the procedure is to place the tissue in a liquid which has a refractive index less than that of water. For this purpose benzol is employed. After the tissue has been kept in benzol for a sufficient period of time, it is placed in a liquid which has a refractive index of almost the same power as that of the tissue itself. The refractive indices of the various tissues have been previously worked out. For this purpose the author of the method found that a definite mixture of wintergreen oil and sassafras oil was the most desirable. Consequently he worked out different proportions and mixtures which were to be used for different tissues. The specimens presented are a brain, a heart, and a three months old fetus. They are perfectly transparent. In the fetus, the liver, the spleen, the heart, the bones, the centers of ossification, the eyes and the brain are discernible. This is a very useful method, both for preserving specimens, or demonstrating blood-vessels, Haversian canals, and lymphatic channels, and various other parts and cavities of the body.

NEWS

Whooping-cough has been spreading rapidly in Detroit and Health Officer Kiefer has issued a statement, through the public press, urging parents to observe proper precaution against the disease.

Since May 1 the following articles have been accepted for inclusion with New and Nonofficial Remedies:

Cresatin (Schieffelin & Co.).

Bismuth Betanaphtholate (H. K. Mulford Co.).

Cholera Bacterin (H. K. Mulford Co.).

Typho-Bacterin, Mixed (H. K. Mulford Co.).

About a year ago, Health Officer Goodwin of Bay City closed several slaughter houses in the city. The butchers have now served notice of mandamus proceedings against the doctor. The State Board of Health has been appealed to, and Attorney General Kuhn will defend Dr. Goodwin.

Later: This trouble seems to have corrected itself when the chief offender applied for permission to construct a sanitary abbatoir.

Sane and Safe 4th of July.—The following record for the past three years ought to be sufficient to interest you and enlist your serv-

ices: 1909, 20 sane cities; killed and injured, 5,307 persons. 1910, 91 sane cities; killed and injured, 2,923 persons. 1911, 161 sane cities; killed and injured, 1,603 persons. Will you help to make the record for this year: 1912, all cities sane; killed and injured, none. C. A. Palmer, State Fire Marshal.

In addition to the voting of $10,000 bonds for a tuberculosis sanitarium, Kalamazoo has also provided for $25,000 to erect proper accommodations for the care of other contagious diseases. Undoubtedly the very pressing need of this institution, caused during the past few days by the prevalence of scarlet fever in the city, has had much to do with authorizing this appropriation. At any rate, it shows that a good healthy public sentiment with regard to the proper care of this class of diseases still exists.

The Anti-Tuberculosis Society of Kalamazoo is accomplishing a very important work these last few weeks in furthering the crusade against this disease through the employment of Dr. Harvey D. Brown, who has given many talks at dinners, in the public schools and in various fraternal and social organizations. His lectures are given more from the viewpoint of a non-medical man than a physician, and appeal to his hearers strongly. Not only has more interest been created among the citizens but also it has awakened a higher appreciation of the benefits to be derived from treatment of this disease in a properly equipped sanitarium such as the city will soon have as the result of a recent bond issue voted on at the last election.

At the closing session of the Michigan State Homeopathic Medical Society at the Hotel Cadillac, Detroit, May 21, the following resolutions were unanimously passed:

Resolved, That the Michigan State Homeopathic Medical Society in annual session assembled urges its members to assist in every way possible in informing the public as to the law requiring that no persons afflicted with certain ailments shall be united in marriage and that a fine is provided for any minister or justice violating this law, and to assist in the enforcement of this law; be it further

Resolved, That we urge on the State Board of Health that these diseases be listed with other communicable diseases dangerous to public health and that they may be recorded accordingly; be it further

Resolved, That our state board of control be requested to take the necessary steps to again bring before our state legislature a bill providing for the sterilization of defectives and habitual criminals.

On June 6, at Atlantic City, during the meeting of the American Medical Association and following a symposium on anesthesia, the National Society of Anesthetists was organized. Prof. Yandell Henderson of Yale, Chairman of the Commission on Anesthesia of the A. M. A. occupied the chair, those assembled for the symposium acting as a committee of the whole, proceeded to organization and elected the following officers for the year 1912-1913:

President, James T. Gwathmey, New York.

Vice-Presidents, Charles K. Teter, Cleveland; F. H. McMeechan, Cincinnati; Yandell Henderson, New Haven.

Secretary, William C. Woolsey, 88 Lafayette Ave., Brooklyn.

Treasurer, Harold A. Sanders, Brooklyn.

The constitution and by-laws were ordered to be drawn by the executive committee and submitted to the society at its next meeting for adoption; all names submitted for membership, if qualified in the estimation of the executive committee, shall be considered as charter members if presented within a period of sixty days and accompanied by the levied due of three dollars.

The National Society of Anesthetists in this notice calls all those who are actively interested in this work to join its ranks and assist in developing the subject of anesthesia to greater perfection and more uniform safety.

COMMUNICATIONS

MEDICAL LEGISLATION

To the Editor: The object of this paper is to take into consideration the present status of medical practice, medical legislation, and the

things appertaining to conditions at present existing not only in this state, but in practically every state in the Union.

O'er the country in general to-day we see more or less efforts made in the interest of medical science and medical men.

Medical Associations have cropped up everywhere. All having to do with keeping medical ethics above reproach, and all having a tendency to be of benefit to the laity.

Outside of papers of medical or surgical interest being written, read or discussed, the work of Medical Associations in general amounts to nothing in so far as instituting real progressive measures to the effect that none shall attempt to heal except those fittingly trained to do so.

As a result of this laxity of a fixed purpose there have sprung into existence many diverse methods of healing, and most of them of a nature that is buncombe, pure and simple.

Legislatures are apparently easily reached for graft holds a high place in political life. A bribe no matter how infinitesimally small, easily finds a receptive palm whose owner is quite willing to lend his aid in fostering a bill, regardless of its worthiness.

The medical press is in a chaotic condition—the dissension is fearful in its manifestations. It all tends to show that organization of to-day is lacking in some of the sterling qualities that would tend to elevate the profession rather than to invite upon itself besmirching influences.

Jealosy and selfishness predominate on every hand, petty practices, 'tis true, but nevertheless profound.

It is absolutely essential that something be done, and the sooner the better. The sooner state boards act in a more uniform and less complicated manner, and medical legislation be resorted to, the sooner will right and justice prevail.

The present trend of medical thought and action presents so much in the way of dissension that a speedy determination to bring about a real, good solution of the problem seems very remote indeed.

At the present time the state boards of medical examiners of the different states conduct business in a manner which tends to favor their own medical institutions in preference to outside schools of learning—a sort of nativeson favoritism exists. Only recently a western state whose institutions of learning are of a secondary or tertiary standing, passed upon examination graduates of such institutions, and rejected others of the leading schools of the land.

Applications for license, among other things request a statement as to where the applicant desires to practice. This, I believe, to be very unfair, for if he desires to locate in a small community wherein a member of the State Board of Medical Examiners has an unopposed practice he may well view his prospects of acquiring a license, or fair play, with more or less apprehension. Say what one will, but it is an established truth that jealosy and selfishness are strongly developed characteristics among medical men. Is it any wonder that many medical men lose their sense of honor, and resort to acts unethical and disgraceful?

I am aware of conditions in this state as well as elsewhere, and I cannot too strongly condemn the apathy and lack of interest displayed by men high up in the councils of medical lore, whose years of experience have been ones of success, and whose interests are absolutely self-centered, with no consideration as to the welfare of the profession, in the years to come.

I have known personally of instances where the untrained so-called healer of different methods has been allowed to practice unmolested for years, and all with the apparent knowledge of men whose standing in state medical circles is high.

When men of this calibre make no effort to remedy such conditions, and to invoke the law's aid whenever necessary, what can be expected of the more recent graduate and practitioner?

Only one reason appears to deter any one doctor from preferring charges against some violator of the state practice acts, and that is: he feels that he is gaining notoriety of no benefit to himself, and the laity are apt to view the position of the prosecuted with more or less favor, believe him to be wronged, and mayhap jealosy on the part of the first may mean that the other must be a better equipped man in medical science, etc.

A recent occurrence in this county I recall: A medical man essayed to practice his profession in a town near here, and was not duly licensed nor registered. Naturally the other members of the profession resented this intrusion, and more or less mail matter passed between them and the secretary of the State

Board of Medical Examiners. The aforesaid physician has since been licensed and has registered, but it appears that there was more or less initiative lacking in any one member of the profession bringing charges, for the reaction from the laity's viewpoint is usually to the disadvantage of the active investigator and rectifier of the condition.

Here, too, is a practitioner who has been practicing for some years, who is neither licensed nor registered. No one medical man wants to take up the matter. At a recent meeting of the county medical society suggestions were made and the result is still pending solution. In a letter to the secretary of the State Board of Examiners the latter affects to lend ear to the attorney general's so-called good word respecting this practitioner, which appears to be founded through some friendship or other for said practitioner's parents, etc.

However, be that as it may, it appears that in every community where such a violation exists, no physician in good standing cares to take it upon himself to prefer charges in view of the notoriety he may achieve through such action.

As a consequence it occurs to me that something should be done in fairness to all. The solution, I believe, would be to appoint a committee of investigators comprising several members of good standing professionally who reside in different parts of the state. The expense of this committee to be defrayed by the state medical society; whenever there is a violation of the medical practice act in any county or community, the physicians there to unearth the convicting evidence, said evidence to be placed in the hands of some member of the committee, who shall go to said place and bring the necessary charges into court. In this way, I believe, a solution of the problem is possible and at any rate will bring no notoriety to any doctor in the community, in which the violator seeks to practice.

It is undeniably true that the laity know little or nothing about the efficiency and capabilities of the medical men about them, therefore, their belief in most any method of healing.

Michigan as a state holds a foremost place in matters unethical, and it is an established fact that charlatans, quacks and proprietary remedy fakers apparently find this state an excellent one in which to carry on their nefarious businesses, as, to wit: the many mail-order frauds that are so prevalent. Truly it does not speak well for the intellectual development of the people. What influence, then, is there that makes Michigan such a harbor of refuge for these swindlers of the afflicted? There must be some underlying causal element.

To debate further upon this topic at this time I do not feel is necessary, the conditions now existing are quite well known to all thinkers.

The writer has had experience before various state boards of medical examiners, and as a result has reason to believe that the chaotic conditions governing such bodies, in so far as acting together is concerned, are so great that a "Moses" is needed to bring forth a real, good, far-reaching solution of the problem from the apparent wilderness of confusing ideas.

LEST WE FORGET!

Some men laugh and some men grumble,
Some men walk and some men stumble.
  What's life but a day-dream after all.
When you're young the world looks bright
And you rise up in all your might,
  And plan to do big things, or none at all.
You may have friends that adore you,
When you're down and out they'll ignore you,
  Those that shake your hand will sometimes shake their heads.
To them you are a failure, lacking all that affords them pleasure,
  And in desperation you go your way as one dead.

My, what a funny little world this is!
In it money is the one best bet,
Doctors often lose their sense of honor
Just so they may acquire the elusive dollar.
In any venture that may be met
If one is inefficient, incapable of activities good,
His sole ambition is to prosper no matter what his mood.
He cares not for principle—to him principle be damned,
For his view of life is one—of dollars to command.

My, what a funny little world this is!
One doctor may make a diagnosis,
Another his effort will dismiss,
The one seeks to aid in all honor,
The other through jealousy condemns
All to one thought—the almighty dollar!

Principle is lacking—of it little can be said.
The less said the better—is their viewpoint seconded.
No matter what ethics may be, to them it applies not,
For their idea of life is one of ease—ill-gotten gains their lot.

My what a funny little world this is!
Honor is trampled upon, fair play does not exist.
Feigned friendship and interest persists,
But why let us worry and fret o'er the results
If we do not extend ourselves to bring good ideals uppermost.
My, what a funny little world this is!

O. B. Lambert.

Escanaba, Mich., May 8, 1912.

June 15, 1912.

Dr. Wilfrid Haughey, Editor, Battle Creek, Mich:

Dear Doctor:—In a recent issue of the Journal of the Michigan State Medical Society (Vol. 11, No. 6) there appears an editorial concerning the radium content of Dioradin, based on an examination made by E. H. Büchner, privat-docent of the science of radioactivity at tne University of Amsterdam. We presume that the abstract of the article by Bücher, which originally appeared in the *Pharmaceutisch Weekblad*, March 2, 1912, p. 161, and contained in your editorial, is correct, and we therefore beg to call your attention to several points in connection with this abstract.

It is therein assumed that one gram of pure radium bromide costs 250 francs ($50), but you are probably aware that preparations of radium are sold on the basis of their radioactivity and the purest preparation of radium bromide (1,800,000 units) according to quotations from Eimer and Amend of this city, is $125 for one milligram, which is 1/1000 of one gram.

The method which is stated to have been used by Büchner is, in general, pretty fair, but we will say that an examination of this kind could not be said to indicate the amount of radium which may have been added, and, therefore, the conclusions drawn from such a test must be accepted with considerable caution, since they do not warrant such far reaching statements as are contained in the alleged abstract. According to this abstract, the emanation from one ampoule is stated to be about 0.1 Mache unit, which is rather surprising in view of the fact that an examination which was made by Hagen of the Physical Technical National Institute of Charlottenburg, on Nov. 20, 1911, gave the following results on three separate ampoules:

Ampoule No. 1.....	9.8 Mache units
Ampoule No. 2.....	9.2 Mache units
Ampoule No. 3.....	15.3 Mache units

An examination made by the Lederle Laboratories also demonstrates that Dioradin possesses radio-activity and it is certain that E. H. Büchner's results also demonstrate this fact.

We agree with you that an examination of one specimen of Dioradin made in Holland is no proof that Dioradin does not contain the amount of radium which we have claimed to be present, and especially, if we stop to consider the possible presence of substances, such as sulphates, which may interfere with the determination of the radio-activity as usually carried out, it is self-evident that such measurements should not be made the basis of calculations intended to convey an idea of the amount of radium which may have been added.

Very truly yours,

Dioradin Company.

[While the editorial referred to contains a typographical error in that the price of radium was given as $50 per *gm.* instead of per *milligram*, the value of the radium per ampoule as calculated by Büchner is correctly given. Regarding the accuracy of the radium determination by Büchner, an authority on radium has expressed the opinion that the paper of Büchner appeared to represent careful work. The results of Hagen, which are quoted, demonstrate the variable radium content of dioradin and confirm the closing statement of our editorial, viz., "While examination of one specimen made in Holland is no proof that all specimens of dioradin contain but a small fraction of the radium which they are said to contain, it proves at least that the manufacturer's claims should be received with suspicion." Dioradin is now under investigation by the Council on Pharmacy and Chemistry, and so far as the medical profession is concerned, this report should be awaited, before either accepting or ultimately condemning the preparation.—Ed.]

The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

Vol. XI BATTLE CREEK, MICHIGAN, AUGUST, 1912 No. 8

PRESIDENT'S ADDRESS READ BEFORE THE FORTY-SEVENTH ANNUAL MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY

D. EMMETT WELSH, M.D.
Grand Rapids, Mich.

I feel, as your presiding officer, that I would be remiss in the discharge of my duties and at fault with my own sentiments should I fail to first express to you my appreciation of the honor that you conferred on me in electing me as your presiding officer during this session of our annual meeting. Out of the fulness of my heart I can only say I thank you, assuring you that I will endeavor to preside at your deliberations in such a manner that when this session adjourns I may have merited your approval.

A decade ago the reorganization of our state society took place, the idea of progressive and liberal medicine was born, and to-day to a great measure we realize the results of our labors during these past ten years. The economics of to-day are far greater than they were ever supposed to be and we must progress still further in the fulfilment of the duties demanding our present attention, and overcome the many obstacles that are being placed in our path of progress.

Our state law regulates the practice of medicine and, though faulty, its present tenets must be obeyed. The practice of an individual school of medicine is relegated to the past ages, and we have, as medical men, but one object to accomplish — the relief of sick and suffering humanity.

Our society now numbers among its members the bright lights of former pathies in whom we now have a brother practitioner. Numerically our society has grown until it now numbers a trifle over one-half of the licensed practitioners of the state. Our meetings are well attended, our section programs contain excellent scientific and practical papers that receive full discussion by the eager listener. Our meeting is looked forward to as a home coming — the glad handshake, the beaming smile of "glad to see you" renews life and we are carried back to our college days.

PUBLIC EDUCATION

As a body of medical men we have a great work before us in the education of the public so that they be fully and correctly enlightened on the subject of "progressive medicine." The field of medicine

to-day is too extensive for an individual mind to grasp all that it embraces. The methods of research and laboratory technic are too great for the individual practitioner to cover, and obtain a working knowledge of the whole field. In certain branches that are to his liking he will advance at the expense of neglecting some other department, and unconsciously he specializes in certain lines of the work. Our investigations and studies lead us forward, and by the education of ourselves we become educators of the public at large in the prevention of communicable diseases, hygiene and sanitation.

Tuberculosis is not the fatal and hopeless disease of but a few years ago. It is now considered curable in its incipiency, and life may be measurably lengthened in the advanced cases. This accomplishment was made only after an educated public was made to realize the rapid advancement medicine had been making, and the cooperation of the public was secured in carrying out the teaching of progressive medicine.

Public education must be talked by us collectively and individually. The past has seen us too secretive in many respects. We have condemned the public for taking up and endorsing the new fads, healing cults and advertisers. The blame to a certain extent rests among ourselves. It is imperative that we turn over a new leaf, take the public into our confidences and educate them to our view point of rational and scientific medicine.

We must concentrate our energy toward teaching and enlightening the young adults and the children. We must begin in the public and parochial schools. Showing the coming generation how to avoid the pitfalls of disease and disaster, teaching the parent of to-day, through our Committee on Public Health Education, the needs of the home and the child, in so far as these needs pertain to hygiene, sanitation and the prevention of disease, will do more for the uplift of progressive medicine than all other factors. The Committee on Public Health Education, which this society established at its Detroit meeting, and which is composed of women physicians, is an auxiliary of a similar committee of the American Medical Association. We now have a good state working body. This committee is carrying out its work through and with various women's clubs, schoolteachers' organizations, grange societies, lodges and similar lay bodies. The talks on health medical subjects, preventable and contagious diseases, thus enlightening the laity, will do more good than pounds of printer's ink.

NOSTRUMS AND THE PUBLIC

The public has been led to believe that the paid nostrum advertisement and the paid testimonials of cure are true conditions and facts, while our society proceedings are nothing but garbled reports of a cub reporter, and we are judged as wranglers. This form of public education, you need not be reminded, was and still is very detrimental to educational movements; and while some of the newspapers are becoming more careful in their published articles on medical subjects and their advertising columns no longer contain so many of these medical advertisements, the desired end has not been attained and there is still much to be done by education.

Medicine to the public has been mysterious; let us educate them to its truisms. Good for the public and to ourselves has been accomplished by the exposures made by *The Journal of the American Medical Association, Collier's Weekly, Ladies' Home Journal* and *Everybody's Magazine* of the so-called "cure-alls."

MEDICAL FREEDOM

The eyes of the public are being opened toward these grafters who are preying on the gullibility of the sick and bed-ridden humanity. Now, since their field has been limited, and their ignoble and fraudulent work and methods have been exposed, they have banded together, and under the guise of injured innocence they bob up again as exponents of "medical freedom." They have national and state organizations and they have secured the alliance of healers, "pathies" and cults in order that they may evade the law and practice their nefarious work.

The medical freedomite officers are the proselytes of the medical fake nostrums who, like the vultures, live on the carcases of incurable diseases. These are the enemies of the public and the profession. They oppose all methods of sanitation, hygiene and the care of the school child and the infant. Their lectures and public addresses are filled with misstatements and evasions.

The public, having never been enlightened as to facts, know not but that their statements are true, and it is our bonded duty to disseminate the necessary knowledge so that the lay person may be competent to distinguish between the right and wrong.

THE OWEN BILL

We all know the merits of the Owen bill and we should direct our energy and continue using our influence until such time as it shall come up for final action and enactment, for by its passage a public information bureau will be established.

A BIT OF POLITICS

A seeming hard fight was started politically in Grand Rapids this spring on the question of school trustees. The "freedom in medicine" followers and Christian Scientists presented candidates who were opposed to, or luke-warm toward, medical school inspection, in opposition to other candidates for office who were in favor of this branch of preventive medicine. A campaign of public education was started with the result that all the candidates favorable toward school inspection were elected. This is but an instance that demonstrates what may be accomplished if we but make the effort to enlighten and inform the public as to facts. We need not fear the verdict of an enlightened and fully informed public.

MEDICAL INSPECTION OF SCHOOLS

All measures for the promotion of the public health have been advanced by the medical profession to its own great financial loss, if we are sordid enough to reckon health in dollars and cents. In childhood the foundation is laid for health and future livelihood.

A short while ago the medical inspection of schools was an unknown and unheard question. The amount of good realized from this important work can only be measured by the time spent in its development, and its importance is now heralded as another step in progressive medicine. The movement is still in its incipiency and its final adoption by every school board and every school district is only remotely distant. Physical examinations are conducted for the purpose of detecting any variation from the normal condition that would interfere with the health and growth of the child.

In conducting the medical inspection of schools several factors authoritative in character are to be considered. Sanitation, hygienic conditions and sex hygiene should be under the control of the board of education, while that which relates to contagion and infection should be under the control of the board of health. The examiner should be a competent medical

man and not a trained nurse posing as possessing the diagnostic ability of a physician. Physical examination should be made and a record kept of each pupil from the kindergarten until the child finally graduates. By so doing our records will amount to something and will possess statistical value. For a detailed synopsis on this subject I would refer you to *The Journal A. M. A.* of Nov. 25, 1911.

STATE MEDICAL BOARDS

The relationship between our state medical boards and ourselves should savor of harmony. We are often prone to favor the individual instead of the public, but when we doubt, favor the public. Our State Board of Health with the cooperation of the local boards of health is not only improving the health of the people by its prevention of contagion but also by the improvement of the sanitation and water-supplies. This is an important factor, for our low death-rate, absence of contagion or epidemic, and good water-supply invites the investment of outside capital, and population increases.

While we are trying to educate the public to our and their needs, we must keep apace with these conditions ourselves. Our medical schools have advanced and the standard of requirements to study medicine have been raised; the course of study has been lengthened, and a higher medical education is given the student who, when graduated, is substantially equipped to practice.

The question has been asked, "What is the matter with Michigan?" There is nothing the matter with the medical department. There is nothing the matter with its laws — we have plenty of them — but they do not restrict. Our Board of Examiners grants us a license to practice medicine, yet medicine, or so-called medicine, is practiced here without the sanction of the authorized board.

What has the board done? Nothing. They have simply sat as an examining board or council on those presenting themselves for examination, while those who practice their nefarious work on a credulous public pursue their course unmolested. Had this board devoted a little of its energy toward securing the enactment and enforcement of certain restricting clauses, the question would not now be asked, What is the matter with Michigan?

What is to be done? Abolish all our present laws. Secure the enactment of a new law clearly defining the term practice of medicine, and providing for the prevention and prosecution of violations of such a law. Abolish the present Board of Registration and pass its duties to the State Board of Health giving that board the authority to license all practitioners of medicine and also give that board authority to act in all matters of sanitation and public hygiene.

The federal laws are ample to care for the offenders who use the mails for fraudulent purposes. We supposedly had a board whose duty it was to look after the violators of the medical practice act, but it has become with them "what is everybody's business is nobody's business."

Our state is divided into councilor districts. Each councilor should be held responsible to the state society and the examining board for the legality of all practitioners in his district. The weeding out of all illegal practitioners and the falsifying cure-alls and fake newspaper advertisements, I believe in a few years by the education of the public to the importance of this radical measure will accomplish good for ourselves and the public will be secured. Such a law can only be secured by the united action of

the profession and after a campaign of public education. The efforts of a few cannot bring this about: individually every member must become active in the movement. It remains with you to say whether or not you will lend your influence to assist in bringing about a new state of affairs that will obviate the present condition which permits an ignorant and unprincipled person under the name and guise of one of the numerous pathies to treat and hold himself out as being able to relieve and cure diseases and ailments in competition with one of you. This board is either unable or unwilling to enforce existing statutes. I recommend that this subject receive your serious consideration during this meeting.

COMMERCIALISM IN MEDICINE

It is an unfortunate, but a somewhat true, condition for the profession as a whole that the question of commercialism in the practice of medicine has, in the public mind and through publication in a monthly magazine, gained credence. The splitting of fees and the contract-practice systems where, for a certain price for an unknown quantity of labor is promised, competition is entered into, and the low man gets the plum — this should only be mentioned to be condemned.

The individual should have the honor of his profession and his own self stamina to refrain from this illicit pact, without the society trying to prevent it by rules governing admission or continuance in its fellowship. What we have accomplished in the past is but a mere beginning in comparison to what we must endeavor to secure in the future.

PERMANENT MEETING-PLACE

I believe it will be to the best interest of the society and its individual members, and also to the problems that are waiting for our solution, if we were to establish a permanent headquarters and central meeting-place, in either one of the largest two cities of our state. The advantage of such a permanent headquarters are manyfold. It would bring a larger attendance to our annual meetings, and in addition to the scientific papers of the sections, suitable arrangements could be perfected for the holding of a series of clinics. The financial condition of the society is such as will now permit our calling on our treasury to defray the expense of our annual meeting and its entertainment features. I would recommend that you also take some definite action in regard to this suggestion.

THE JOURNAL

The expense that is incurred by the publishing of our state Journal makes it a costly mouthpiece — to keep it up to an equal plane with the journals of several other state societies will necessitate the expenditure of hard work and considerable time on the part of the secretary-editor. He should be the recipient of a larger salary and should be provided with ample clerical assistance in order that he may be enabled to issue a larger publication whose advertising revenue will enable The Journal to show an annual surplus at the close of each official year. The Journal can be made a source of revenue, but no member is going to devote time that makes inroads on his professional labors for the paltry sum of $25 per month. The Journal reflects the character of the members of the profession whose representative it is. We should not neglect to utilize everything that will enable us to place before the general profession of the state and country a journal that is first class in every respect.

. . . . . .

I have touched on but a few of the more salient questions that deserve the atten-

tion of the delegates and members in attendance at this meeting. If this meeting closes with your taking definite steps toward starting a campaign that will enlighten the public at large as to teaching of modern and progressive medicine, the providing of a permanent headquarters for our state society, the commencement of a movement that will secure a law that will define the practice of medicine and provide a state board that will be authorized to enforce the enactments of such a law, the reorganization of the business methods and scope of our state journal, and the securing of a permanent meeting-place — if, as I say, you accomplish these results at this session, we may then in the years to come be able to point back to our 1912 Muskegon meeting as the time in which Michigan took a long step in advance of the activities of other similar state bodies, and thus demonstrated to the profession at large our broad-mindedness and ability to rise to the needs of the hour, when these needs first presented themselves.

DO IT WHILE YOU CAN

A majority of doctors die prematurely and of heart or arterial disease, most of which I believe due to the prolonged and unusual strain of night work at some period of or throughout their practice. Most night calls are due to thrifty patients waiting for a crisis before telephoning. Their stinginess kills doctors, therefore is a crime. Make the punishment fit the crime, and for such work charge to the limit of their ability to pay, or be governed by the valuation you put on your cardiovascular system.

This quotation is largely correct as can be shown by the experience of many known to you perhaps, and not all may be due to night work. Have you ever thought for a moment as to the intense concentration of mind and energy given to an ordinary obstetrical case? Those who get accustomed to even that common event and are not interested in it, belong to the careless practitioners that now and then have a woman die of neglect, and then say it was unavoidable and charge it up to the Almighty. Do good work and get good money for it.—*Washington Co.* (Pa.) *Medical Program.*

A recent ruling of the Missouri state superintendent of insurance prohibits insurance companies from writing insurance indemnifying physicians against damages in malpractice. Incidentally the superintendent ordered that the same prohibition extend to druggists, dentists, and owners and drivers of automobiles, but later the order affecting automobiles was modified so as to permit the insurance of careful and sober drivers. Against those undesirable citizens, the doctors, dentists and druggists, the order stands.

Roller Towels.—It would do no good in washrooms where many people congregated if the hands, after being thoroughly washed, were dried on infected towels, and to guard against this possibility, the board of health has recently successfully advocated the enactment of an ordinance forbidding the use of the old-fashioned roller-towel. This ordinance was passed by the common council in January of this year, and approved by the mayor on the 30th of that month; following is a copy of the ordinance:

"An Ordinance, to regulate the use of towels in any public lavatory, toilet-room or wash-room within the limits of the city of Detroit.

"It is hereby ordained by the people of the city of Detroit:

"Section 1. No person, firm or corporation owning, in charge of, or in control of any public lavatory, toilet-room, or wash-room shall maintain in or about such lavatory, toilet-room or wash-room any roller towel or towel for common use. The term 'common use' as used in this ordinance shall be construed to mean for use by more than one person.

"Section 2. Any person, firm or corporation violating any of the provisions of this ordinance shall be fined not less than five dollars nor more than one hundred dollars for each offense, in the discretion of the court.

"Section 3. This ordinance shall take immediate effect."—*Bulletin Detroit Board of Health.*

ORIGINAL ARTICLES

WATER PURIFICATION*

JOHN W. S. McCULLOUGH, M.D.
Chief Health Officer of Ontario
Toronto, Ont.

I am sensible of the honor of having the opportunity to address the members of this society. It is a very great pleasure for me to come to Grand Rapids to meet the members of this society, the representatives of a profession which has some claims to recognition not alone in the diagnosis and cure of disease, but also in its prevention. Ours is the only calling which by its altruistic action is steadily engaged, not in increasing the field of its labor and emolument, but in circumscribing the limits of its financial opportunities.

Robert Louis Stevenson, whose whole life was a struggle against a terrible disease and who, consequently, had opportunity to judge of the value of a physician's services in many lands, said that of all classes of men "the physician stands almost always above the common herd." He calls the doctor the "flower, such as it is, of our civilization." Your great ambassador, Bayard, referring to the world's appreciation of Lord Lister who, full of years and honors, died the other day, said: "My Lord, it is not a profession, it is not a nation, it is humanity itself which, with uncovered head, salutes you."

Not only have physicians and surgeons given their services and brains in the great problems of the cure of disease, and in the alleviation of pain and suffering, but they of all men have been the discoverers of the greatest of preventive measures. Of these vaccination, the discovery of the tubercle bacillus, of the cause of malaria and yellow fever, and of the antiseptic system of surgery are familiar examples.

When we consider how great are the obligations of the financial world to these great discoverers, we at once think of the greatest of public undertakings now under way in this country. Were it not for the discovery of the causes of malaria and yellow fever the construction of the Panama Canal would have been impossible. In the construction of this great work under former conditions, the number of deaths from preventable diseases is conservatively estimated at 8,000. The actual number under present conditions from preventable diseases has been sixteen.

The two diseases most easily preventable, thanks to the efforts of members of our profession, are small-pox and typhoid fever. The former, thanks to the discovery of the immortal Jenner, and despite the frantic efforts of fanatical anti-vaccinationists, has been robbed of its terrors, and to-day the scarred face of the small-pox victim is a rare sight. The efforts of Dr. Heiser in the Philippines has ridden those plague-stricken islands of this disease. With the exception of tuberculosis, our largest death-rates, both in the United

* Read before the Kent County Medical Society, March 13, 1912.

States and in Canada, are from typhoid fever.

These two countries with their respective death-rates of forty-six and 35.5 per 100,000 are not equaled in the civilized world. Typhoid is a modern scourge. It was unknown as such when Queen Victoria was born. It was not generally recognized when in 1837 she ascended the throne. Indeed, it was only in the latter half of the nineteenth century that this disease became generally known even to the medical profession. Its discovery, its name, its natural history and the general recognition of its sanitary and economic significance virtually coincide with increase of population and civilization. But, though unknown as such, it was probably a great scourge long before the Victorian era commenced.

The typhoid fever mortality of a community is an index of the character of its water-supply, because this disease is in one way and another more frequently carried through the medium of water than in any other way.

European countries have much less typhoid than American ones. Thus the death-rate for Scotland is 6.2 per 100,000: Germany, 7.6; England and Wales, 11.2: Belgium, 16.8; Austria, 19.9: Hungary, 28.3; Italy, 35.2; while Canada is 35.5, and the United States 46.0.

People of all ages have realized the necessity and value of pure water-supplies. Hippocrates, the father of medicine, wrote some 4,000 years before the Christian era of the value of pure water. There were great undertakings for the purpose of providing water-supplies in ages long ago. At least 2,000 years B. C. there was constructed a great reservoir — Lake Moeris — the purpose of which was to regulate the annual inundation of the Nile. This, with other great reservoirs, was used in times of scarcity of water in the Nile to irrigate the valley lands, enabling them to support a population of 20,000,000. In the valleys of the Euphrates and Tigris, now a desert, there was in ancient times a dense population. The land was extremely productive, due to the fact that the flood waters of these rivers were conserved for the purpose of irrigation.

Portions of India, the ancient city of Carthage, Rome, portions of Ceylon and areas in New Mexico and Arizona still present evidences of extensive works for storing and conveying water. Indeed, there is good reason for believing that one cause of the decadence of some of those ancient countries was largely due to the failure of their water-supplies. It is easy to believe that such may be true, when we consider the predicament of any of our large cities, should the water-supply even for a day or two be obstructed, or for any reason fail.

The rain and snow are the original sources of all drinking-water. They are liable even in their freshest state to contain germs because of the more or less dust which they wash out of the atmosphere. They supply the rivers and streams, the lakes and the ground water of deep wells. The latter, because of the natural filtration of the water through the soil, are usually free from contamination with disease germs. Shallow wells are open to pollution from barnyards, domestic sewage and surface filth. It is a common thing to find that ordinary well waters, classed as excellent by local users, are contaminated, salty or carry a too large proportion of bacteria and albuminoid ammonia.

Various ingredients of water have from time to time been considered as prejudicial to health. Thus, magnesia and lime have been thought causative of goiter — calculi and cretinism and peaty or swamp

waters of diarrhea. It is doubtful, however, if these waters are harmful to any extent.

Various minute organisms known as algæ and protozoan growths are productive of certain odors and tastes described as "fishy," "musty" or "cucumber," etc. But there is no certain evidence that any injury to health results from any of these ingredients. Malaria was long thought to be dependent on waters from swampy areas, but the experiments of Dr. Manson have thoroughly established the relationship of the bites of certain mosquitoes to this disease. Turbidity of water will not in itself act injuriously on the users of such water. On the other hand, many waters, such as the peaty bog waters of Ireland, are of great value in chronic rheumatism and skin diseases; and the value of the numerous mineral springs both in Europe and in America is well known.

The cities and towns of the United States and Canada, as well as those of the European Continent, with the exception of Great Britain, obtain most of their supplies from water courses. In Great Britain (with the exception of the city of London) most of the supplies are obtained from the mountain ranges of central England, Cumberland, Westmoreland, Wales, the Cheviots and the uninhabited mountain ranges of Scotland. On the European Continent the supplies are usually filtered.

In the United States the water courses have become badly polluted from sewage. The streams are frequently turbid to a much greater extent than those of eastern Canada. In Ontario the degree of sewage pollution, while not so great as that of the United States, is a close competitor.

The great source of water pollution is its mixture with sewage, and indications of sewage contamination are given by the number of bacteria per cubic centimeter, the high chlorin content, the presence of the colon bacillus and the abnormal amount of albuminoid ammonia. In considering the question of the quality of a water, not only have these matters to be carefully weighed, but the whole history of the water-supply — its source, its chances of pollution, and everything which may throw light on its character have to be considered. The presence of the colon bacillus does not, as is often assumed, indicate that the water may cause typhoid. It merely shows that, as the colon bacillus is the constant habitat of the intestines of man, the water has been contaminated with human sewage, and may contain the *Bacillus typhosus*.

A high chlorin content may come from barnyard sewage or from underground salt reaches. The great majority of bacteria are harmless, but the larger the number in a given sample, the greater the chance of there being some of a dangerous character.

In this country the disease most often carried through the medium of water is typhoid fever. This disease is often carried by flies through the medium of milk and other foods, and by carriers — that is, by persons who, having had the disease, still retain the germs of it in their systems and excrete them in the feces and urine. When we recollect the uncleanly habits of many individuals, we can readily understand how they may contaminate others. Typhoid fever outbreaks especially in the colder seasons of the year are most likely, if in any way extensive, to be water-borne.

The financial loss which may occur in a municipality whose water-supply becomes infected and produces an epidemic of typhoid fever may be best illustrated by what has occurred in a small town of 10,000 people in the Province of

Ontario. Investigation showed that from this cause there had been during a period of eleven years ninety-eight deaths from typhoid. Most of the deaths occurred during the winter months. Of this number seventy-six of the deaths occurred in adults.

It is a moderate estimate to place a value of $2,000 on an adult life. The courts usually give twice that sum. But taking this moderate estimate, it means that the aggregate value of these seventy-six adult lives was $152,000. The funeral expenses at $25 each (which is very moderate) would give $18,000.

The death-rate from typhoid, compared with the total number of cases, is about 10 per cent. This means that for every death there would be nine other cases, so that these seventy-six deaths would mean 684 additional sick ones. The cost of nursing and medical attendance for these would easily average $25, which would add the sum of $16,200.

The average length of illness and convalescence is forty-three days, and it is fair to say that the sum of $1 per day would not be too great a value to place on the loss of time. This makes a total of $29,412.

Counting up all these sums, we get a grand total of $200,412 for the record of eleven years, or an average of $18,219 per year. This sum represents $455,475 at the rate of 4 per cent. Who will deny the fact that a safe water-supply would have paid?

Realizing the danger to our people from stream pollution, there was taken last year the first and most important step in the direction of securing to the province the great heritage of pure water supplied by Providence. A stringent law was enacted making it an offence to put sewage into any lake, river or stream. I am rather proud of this enactment, as I had the honor of framing the bill which made this provision law. This year the federal government will probably enact a similar law in respect to navigable waters.

By these means it is hoped in the course of time to restore to the natural waters of the province their pristine character and make then sources of health and comfort, rather than of a dangerous character.

If a public authority undertakes to supply its citizens with drinking-water, and especially if people are compelled to abandon other supplies and to use and pay for the public supply, on such authority rests the responsibility of seeing that the supply is pure and wholesome. If the supply were furnished by a private company it would seem that the burden of protecting the consumer rested on such private company. Lightly are these burdens borne! In how many cases have sanitary reforms been postponed because of quarrels between conflicting interests, because of personal feeling or because of failure to appreciate warnings of public danger.

I believe the time will come when public authorities will be held legally, as well as morally, responsible for deaths due to infected water. If a city is held liable for injuries or death resulting from neglect of public highways, how much greater the responsibility when such neglect puts in jeopardy the health and lives of the entire community.

The usual means designed for the purification of water are: (1) storage, (2) filtration, (3) disinfection.

It is a popular theory that "running water purifies itself." This should be reversed to read: "Standing water purifies itself." Storage is the natural plan of water purification, and in the opinion of some of the world's greatest sanitarians is the best method known. Streams are improved as they flow by dilution and sedimentation, by the sunlight, by aeration,

and by the antagonism of organisms. Against these factors of improvement, however, should be placed the question of the long or short life of the contained bacteria, and the accumulated filth gathered by scour in the course of the stream.

Apart from the scientific side of the question, it will probably be admitted that the water of our lakes, the natural storage reservoirs, is better and purer than that of rivers and streams scouring through the land and exposed to all sorts of contamination. The water of Niagara Falls is known to be purer above the falls than after it has tumbled over that mighty chasm. Again, the waters of Lake Michigan, Lake Huron or Lake Ontario are, except in the neighborhood of cities and towns which use them for the disposal of sewage, as pure as could be desired.

The good effects of storage are due chiefly to sedimentation, by means of which the clay, and with it the bacteria, is carried to the bottom. The life of the bacteria in the depth of a storage reservoir is of short duration. There is no doubt, too, that aeration and sunlight have a good effect. On the other hand, too great heat — such as is found in more southern states — tends to the production of algæ and protozoan growths. Except in midsummer this is not likely to occur in the more northerly parts of the country. It is not considered that algæ are at all dangerous to human life, but some of them impart a fishy taste to the water. They may readily be destroyed by the use of small quantities of copper sulphate.

In deep lakes and large storage reservoirs the water below a depth of 30 or 40 feet may remain practically motionless for months at a time. These large bodies of water turn over usually twice a year when the temperature of the body of water is equalized all over. The summer and winter stagnation gives opportunity for the deposit of suspended matter and the contained bacteria. The use of storage as a means of purification implies the care of the water-shed from which the storage basin receives its supply. This area must be protected against contamination.

Once a storage system is established, the expense, operation and maintenance are comparatively small.

The City of Fort William, Ont., is one of the few places in that province using stored water. Previous to the year 1906 the supply was taken from the Kaministiquia River. It was found that the typhoid epidemic of that year was due to contaminated water, the death-rate having reached the enormous figure of 946 per 100,000. Public opinion was aroused and a pure supply secured by gravity from Loch Lomond, the water-shed of which is patrolled daily. Since the establishment of the storage supply, the typhoid rates have steadily diminished and are now normal. The citizens of Fort William regard their water-supply as one of the great public health assets of that city.

An example of a great storage supply is that at present being constructed for New York, the largest city on the continent. Ninety-two miles distant in the Catskill Mountains at Ashokan there will soon be completed an immense basin to store the rainfall of an area of 255 square miles. A small stream, the Esopus Creek, has been dammed by a concrete dam 65 feet high. Extending from this to the flanking mountain walls on either side, an enormous dike of concrete, stone and earth is carried for a distance altogether of 12 miles. The immense reservoir thus formed will have a mean depth of 50 feet and a maximum of 190 feet. It will hold 130 billions of gallons, ensuring a daily supply of 600,000,000 gallons. The water will be conveyed to the city through a 17-foot tunnel which will pass under the

Hudson River. The cost of this enterprise will be $162,000,000. The engineer in charge told me that this supply, to which a greater area may easily be connected, will suffice for the next fifty years and will pay for itself in twenty-two years.

Incidentally I might remark that due regard has been had at all these works for the health and care of the workmen. A pure water-supply, a sewage disposal plant and a hospital have been established. It is a sanitary camp, and is under the control of the Lederle laboratories. Protection against communicable disease has been provided by careful examination of each man before he is allowed to go on the work.

FILTRATION

Two methods: (1) slow sand filtration; (2) mechanical filtration.

I. SLOW SAND FILTRATION

This is also known as the English system, and consists practically in the form of tight reservoirs built of concrete with collecting drains underneath to carry off the filtered water. The beds are composed of 5 or 6 feet of stratified material of progressive degrees of fineness, beginning at the bottom with *graded* broken stone or gravel and ending with an upper layer of fine sand. Some have 16 or 18 inches of sand and others 4 or 5 feet. The thickness of the sand layer is not material. Sixteen inches gives as good results as several feet. The cleansing process is accomplished by the topmost inch or two.

The water to be filtered is introduced to the depth of a couple of feet on the surface and slowly and evenly passes through, leaving the impurities in the first inch or two of the sand. A slimy, jellylike material produced through bacterial agency serves to entangle and hold the bacteria and other suspended matter. If it were not for the fact that the dirty bed becomes so slow a filter, it would not need to be cleansed. The riper the filter the more effectual its cleansing action. A fresh filter bed is not as efficient as one which has been in action for some time, but the accumulation of dirt lowers the rate of filtration so greatly that it must be cleaned at intervals of thirty to ninety days.

This lowering of the rate of filtration determines the necessity for cleaning, which is accomplished by scraping off the dirt layer and washing it with filtered water, after which the cleansed sand is replaced. The washing process is an interesting one. It is accomplished in some filters by Nicholl's washers *in situ;* in others, in concrete basins outside the filters. In some plants, such as those in Philadelphia, where the turbid waters of the Delaware and Schuylkill rivers are used, a rapid preliminary filter is used to remove the mud. This slow sand type of filter is used in many cities of the United States. The most extensive ones are at Philadelphia. Those known as the Torresdale filters cover an area of 65 acres, and the actual filtering area at this station comprises 48 acres. Other filters in this city are the Queen Lane, Upper and Lower Roxborough and Belmont. The cost of all these plants amounted to $28,000,000.

In Ontario one filter of this kind has been established, that of Toronto, which has very recently come into operation. At the experimental laboratory of the Ontario Board of Health we have an experimental filter of this type of a capacity of 10,000 gallons daily. From this filter we supply the various government offices at Toronto.

The usual rate of a slow sand filter is about 6,000,000 gallons per acre daily.

Slow sand filtration is extensively used in Europe and is adapted to waters which

are clear, uncolored and having a low turbidity.

II. MECHANICAL FILTRATION

In contradistinction to the slow sand system, that of mechanical filtration is known as the American system. Roughly outlined, this plan consists (after holding the water in large sedimentation basins for twenty-four hours or so to get rid of suspended matter) in adding to the water to be filtered a minute dose of aluminum sulphate, about 1 grain per gallon being the usual amount, and then rapidly passing the water through a filter of fine sand with underlying gravel.

The carbonates present in the water decompose the aluminum, forming a white flocculent precipitate of aluminum hydrate, jellylike in appearance. The action of this aluminum hydrate is much the same as that of white of egg in clearing coffee. This flocculent material entangles the suspended matter and bacteria and forms a deposit on the surface of the sand whence it is removed and carried away through the sewer pipes by a reverse current of filtered water, with the addition in some cases of air.

The aluminum hydrate has the additional action of uniting with the soluble coloring matter of the water and is thus particularly adapted to colored waters from sources which include swampy areas. Very turbid waters which cannot be satisfactorily cleaned by slow sand filters are best treated by this form of filter. The proper dose of aluminum is added by an automatic mixer in connection with a dissolving tank where the solution is prepared in the proportion of one part of aluminum to twenty parts of water. The water is passed through these filters at a rate of about 125 million gallons per twenty-four hours. Sulphate of iron is used in some plants, its advantage being that it is cheaper and does not harden the water which the aluminum does to some extent. Very hard waters are best treated by the iron process. Where the water is primarily very hard, it is necessary to add soda ash to soften it.

In a plant at Quincy, Ill., the cost by the iron process was $1.33 and the aluminum process $4.10 per million gallons. There is no danger to health from the use of aluminum or of iron. In a well-managed plant free aluminum is never contained in the filtered water. This type of filter is cleaned about every twelve hours, each unit requiring about four to six minutes for the operation.

A rough estimate of the cost of establishing such filter is about $10,000 for each million gallons' capacity. The average cost of operation is about $4.73 per million gallons.

Among those I have had the pleasure of examining are Watertown, N. Y. (where the water is yellow), Columbus, Ohio, Cincinnati, Louisville, Ky., and New Orleans.

In these cities the river water used is extremely turbid and badly polluted with sewage and in some instances with factory wastes. The plant at Cincinnati cost $11,500,000. At Columbus the water of the Scioto River (which is the source of supply) is very hard, and large amounts of soda ash are used to soften it. The cost is thus greatly increased, being $19 per million gallons, while the cost at Cincinnati is $4.19 per million gallons. The results at these places are very good, 100 per cent. of the turbidity and 99.7 per cent. of the bacteria being removed.

Filtration, whether by means of the slow sand process or when accomplished by mechanical filtration, has given good results. In every community I have vis-

ited where the waters are purified by this means the water-supply has a good reputation and is regarded as one of the best things they have to talk about. The typhoid rates have, with very few exceptions, been greatly reduced. The water is clear, of good quality and the results of bacteriologic and chemical examinations make a good showing. In the rare cases where typhoid has not been reduced it is apparent that there are other causes for a too large rate. When the people of Albany, N. Y., drank the raw water of the Hudson River, typhoid was rampant; but the filter put a stop to this and caused a very sudden drop in the death-rate therefrom. During the last two decades the substitution of improved water-supplies have, more than anything else, effected a marked reduction of cases of, and deaths from, this disease.

DISINFECTION

Contaminated water may be purified by boiling, by mixing with ozone and by chemicals. Boiling is an effectual means of purification but is troublesome, and in summer the water cannot be cooled unless by the use of ice. To some palates it is distasteful even when cooled. Many people will not take the trouble to boil the water and many will continue to use unboiled water for washing raw vegetables, fruit, etc., and thus invite infection if the water is contaminated.

The use of ozone is effectual, but very expensive, the difficulty being to mix the ozone thoroughly with the water. There was one plant of this character in Ontario — that of Lindsay. Careful and prolonged investigation, however, proved that the whole apparatus was a fake, and the people of Lindsay were put to the expense of $7,000 or $8,000 for the installation of a plant which was practically valueless in so far as purifying the water was concerned.

The value of *hypochlorite of lime* in the purification of water is amply proved. It is especially valuable as an emergency measure, the apparatus for its installation being simple, inexpensive and capable of rapid construction. The use of three-tenths part per million of available chlorin is generally sufficient. In Ottawa, Toronto and Sarnia in the Province of Ontario, its use rapidly checked epidemics of typhoid fever.

The theory of its action is generally recognized to be a process of ozonization. Its solution in water sets free the chlorin of the hypochlorite of lime; this in turn unites with the organic matter in the water, liberating oxygen — which in turn kills the bacteria. There is no danger to human beings, animals or plants from its use. It hardens the water so little in the quantities used that the objection in this respect is infinitesimal. It does not cause taste or smell unless used in too large quantities.

The expense is very trifling. A million gallons of water may be purified at a cost from the chemical alone of 20 or 25 cents.

There are, of course, sentimental objections to its use in the minds of many. For instance, both at Toronto and Ottawa people were objecting to its taste and smell before the chemical was actually introduced. Altogether, it is a very valuable means of purification.

An apparatus for the use of hypochlorite may be constructed at a moderate cost of, say, $200 or $300 for a million gallons. The cost of maintenance means the pay of a laborer or two, while that of the hypochlorite is very trifling.

The various plans thus briefly outlined will give in the circumstances to which they are suited excellent results. Of course, the plans for storage and filtration

cost money, both for their construction and upkeep, but good water is an absolute necessity and must be secured at any cost.

Unless some concerted action is arrived at between the two countries — Canada and the United States — in respect to the disposal of sewage, the waterways of these countries will soon be polluted beyond recovery. A school of waterworks engineers in Canada and the United States teaches the theory that it is cheaper to purify water than to treat sewage. That may be so from a financial point of view, but, if good health and human life are of any great value, their theory is as pernicious as it is unreliable.

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE

RESULTS OF EXAMINATION AT DETROIT, MAY, 16-18, 1912

Name	College		Per cent.
Anderson, Warren B	Detroit Homeopathic College	1912	84.3
Bovee, Marion E	Detroit College of Medicine	1912	85.1
Bundy, George	Detroit College of Medicine	1912	82.15
Burleson, George S	Detroit College of Medicine	1912	81.8
Burnstine, Julius Y. E	Detroit College of Medicine	1912	84.9
Burr, George C	Detroit College of Medicine	1912	87.
Campbell, Neil E	Detroit College of Medicine	1912	82.55
Candler, Clarence L	Detroit College of Medicine	1912	84.8
Carmichael, Edward K	Detroit College of Medicine	1912	75.2
Catherwood, Albert E	Detroit College of Medicine	1912	84.1
Clark, James E	Detroit College of Medicine	1912	82.5
Durocher, Edmund J	Detroit College of Medicine	1912	80.35
Eisman, Clarence H	Detroit College of Medicine	1912	83.85
Ford, George A	Detroit Homeopathic College	1912	81.4
Geib, Ledru O	Detroit College of Medicine	1912	75.
Geib, Oscar P	Detroit College of Medicine	1912	86.3
Green, Ellis R	Detroit College of Medicine	1912	80.95
Hardy, Ernest E.	Detroit College of Medicine	1912	83.7
Hunderman, Ed. D	Detroit College of Medicine	1912	81.7
Husband, Charles W	Detroit College of Medicine	1912	84.55
Kopel, Joseph O	Detroit College of Medicine	1912	83.4
L'Esperance, Simon P	Detroit College of Medicine	1912	79.65
Minor, Edward G	Detroit College of Medicine	1912	87.25
Moon, Arthur R	Detroit College of Medicine	1912	81.6
Naylor, Archibald E	Detroit College of Medicine	1912	86.9
Nibbelink, Benjamin	Detroit College of Medicine	1912	82.
Northrup, Hubert E	Detroit College of Medicine	1912	82.25
Parks, Wm. H	Detroit College of Medicine	1912	83.8
Rees, Kendall B	Detroit College of Medicine	1912	79.25
Robertson, Wm. P	Detroit College of Medicine	1912	86.1
Robinson, Wm. H	Detroit Homeopathic College	1912	82.52
Rohde, Paul C	Detroit Homeopathic College	1912	82.8
Ross, Erwin Worth	Medical Department George Washington University	1910	85.7
Rynearson, Wm. J	Detroit College of Medicine	1912	83.9
Sewell, George	Detroit College of Medicine	1912	84.2
Singleton, Wm. A	Detroit College of Medicine	1912	89.2
Smith, Alba L	Detroit College of Medicine	1912	77.25
Smith, Eugene (Jr.)	Detroit College of Medicine	1912	78.9
Thompson, Charles W	Detroit College of Medicine	1902	86.25
Vaughan, Morley S	Detroit College of Medicine	1912	75.65
Webster, John C	Detroit College of Medicine	1912	85.6
Whitten, Raymond R	Detroit College of Medicine	1912	78.87
Windham, Roy A	Detroit College of Medicine	1912	80.25
Yarrington, C. W	Medical Department University of Michigan	1902	87.6

TUBERCULIN THERAPY—A RATIONAL EMPIRICISM*

E. S. BULLOCK, M.D., AND L. S. PETERS, M.D.
Silver City, N. M.

In order to gain anything like a clear mental concept of why we use tuberculin; in fact, if there is any real reason for its use, lying outside of pure empiricism, the result of clinical evidence accumulated during the past twenty years, it is essential to examine critically the main facts, if it be possible to isolate them from the mass of contradictory evidence presented, that have resulted from the enormous amount of experimental investigation that has been done since the discovery of the tubercle bacillus.

Taking the experimental evidence as it comes, the most superficial student must be impressed by the chaotic state of our knowledge concerning tuberculin. Truly it may be said that utilizing the experimental evidence most anything may be proved regarding it. We can, however, gather those facts which seem to lead somewhere, and study them in their interrelations as well as their relation to the opposing evidence, i. e., those facts which seem to lead nowhere. Such is the purpose of this inquiry. What we hope to prove is that recognizing fully the established empirical use of tuberculin which, after twenty years of accumulated clinical data no one can confute, still it is possible to go farther and prove that enough genuine scientific evidence has been forthcoming to raise tuberculin therapy out of pure empiricism and place it at least on a semiscientific plane, sufficient, indeed, to justify our title "A Rational Empiricism."

It will be necessary to start with fundamentals — the chemistry of the organism from which tuberculin is derived. Very early it was found that the bacilli varied in their composition depending on the character of the medium on which they had been grown. Thus, in order to eliminate this source of error derived from using organic media of unknown character it became necessary to use synthetic media, for instance, asparagin, the nature of which is, of course, known.

Careful and repeated analyses have shown that the tubercle bacillus consists of about 85 per cent. water; and 20 to 26 per cent. of the residue may be extracted with ether and alcohol. The resulting matter is then found to consist of fatty acids and waxy substances.[1] Following alcohol and ether extractions the residue is composed chiefly of proteids. These may be extracted with dilute alkaline solutions, and for the most part are nucleo-albumins. A nuclein present in this fraction shows extremely high toxicity, and on this account is usually given credit for being the toxic element of the bacillus. Following the final extraction the ultimate residue contains cellulose and also an ash rich in calcium and magnesium. All the labor that has been done in the analysis of tubercle bacilli reveals one thing of great importance—the specifically poisonous nucleoproteid.

According to Levine and others, there is no ordinary albumin in tubercle bacilli,

* Read before the Harper Hospital Alumni Association, May 20, 1912.

1. Hess and Zimssen: Text-Book of Bacteriology, 1910, p. 484.

which is substantiated by the fact that the proteid products of the tubercle bacillus by their power to resist heat makes them utterly different from all known albumoses and toxalbumins. No other organism contains so much fat as the tubercle bacillus, which with wax, forms sometimes 40 per cent. of their substance, and these singly or together, without doubt, form the protective covering so well known on account of its acid resisting property.

The nucleoproteid content of the bacillus has been subjected to a vast amount of study, as a result of which and standing out in bold relief are two bodies — first, a complex substance known as tuberculinic acid, which has a higher degree of toxicity than any other element in the bacillus, and which chemically has been identified as a nucleic acid. As well, there has been found a further basic substance, protamin in character, which has been termed tuberculosamin, and which was first isolated by Levine from the nucleoproteid of tubercle bacilli. There is no reasonable doubt that these are the most important and characteristic poisons of the tubercle bacillus, and in their resistance to physical and chemical agencies they are unique among bacterial products. Call them toxins if we must, but let it be with a clear understanding that they are utterly different from all other bacterial products usually included in that term.

Dead tubercle bacilli when injected in large quantities cause cachexia and grave constitutional poisoning, the characteristic lesions of which are atrophy of the viscera and cold abscesses. Experiments with glycerin extracts of tubercle bacilli have shown that the toxic substance derived thereby causes the same effects as dead bacilli, but more rapidly. Indeed, all subsequent investigations have strengthened the opinion that all the effects of the bacillus and its products are principally due to one and the same substance which has continuously been identified as the complex nucleoproteid of Ruppel and Levine. It also seems certain and is well to bear in mind in this connection, that the difference in action on healthy and tuberculous animals is one of degree and not of kind.

Practically all that has been discovered regarding the chemistry of the tubercle bacillus that is of real importance may equally as well be applied to the chemistry of its products, particularly the tuberculins, and but serves to accentuate its identity as one complex substance, including all the toxic elements in the bacillus and those derived from it. Turning, however, to tuberculin, if further light on its proteid nature is required, it may be found in the work of Baldwin and Levine[2] who studied tuberculin through the medium of enzymes which cause its destruction in vitro, as for instance trypsin. This, they think, indicates the nucleoproteid nature of tuberculin. According to Wells,[3] the proteid nature of tuberculin is further illuminated by the following: All foreign proteids when introduced into animals are more or less toxic. The toxic effect of nearly all bacterial products are neither specific nor particularly striking. There are a few pathogenic organisms which seem to produce neither true toxins nor endotoxins, notably the tubercle and anthrax bacillus, and with them there may be a relation between their proteid constituents and their specific effects. There is, also, according to this author, a close analogy between the effects of tuberculin in tuberculous subjects and the injection of small quantities of proteoses: for the characteristic febrile reaction following tuberculin also follows the injections of a solution of proteose. From this it may be

2. Jour. Med. Research, 1901, p. 120.
3. Chemical Pathology, 1907.

reasoned that the proteoses arising from cytolysis in tuberculosis may, when diffused through the blood, be responsible for most of the fever and other symptoms of toxemia in tuberculosis.[4]

Proteoses are products of tissue destruction, and keeping this in mind it is well to remember that they can cause effects practically identical with tuberculin. Yet, in caseation, autolysis, which is essential for the production of proteoses is usually very slight, as is shown by the persistence of caseous material for long periods of time without absorption. It seems that the toxin of tuberculosis destroys the autolytic ferments of the cells it kills, and in the absence of chemotactic influence (the rule in tuberculosis) the leukocytes cannot enter the caseous area;[5] therefore, we cannot be justified in confusing tuberculin with proteoses even if they have a similar effect when introduced into tuberculous animals, and this conclusion is not contradicted by the fact that at the periphery of caseous areas some slight autolysis does occur, as proved by the existence in this region[6] of very small quantities of albumose and peptones mixed with tissue elements.

Another factor which must be considered in explaining the lack of autolysis in caseous material may be that tubercle bacilli as compared with other bacteria have been found to be very poor in enzymes.[7] When leukocytes are attracted to a tuberculous area, softening goes on rapidly, showing that the failure of autolysis is not due to lack of digestibility on the part of caseous material, but to lack of enzymes.[8] Before leaving the chemistry, or rather the bio-chemistry, of the tubercle bacilli and its products, it may be well to mention that Auclair[9] claims that a fatty substance can be extracted from tubercle bacilli with chloroform which will cause caseation. Dead tubercle bacilli do not cause caseation, according to Kelber,[10] as the substance which causes necrosis does not diffuse readily from the bodies of the bacilli.

It then seems fairly certain that the tubercle bacillus does not produce a true toxin; that the slow toxemia of the disease is largely the result of absorption into the blood of the nucleoproteid characteristic of the bacillus and the products, or that their substance undergoing autolysis in the body may give rise to proteoses that may be the essential element in toxemia. This last attractive theory though possible is not probable.

This is practically the only conclusion that we feel justified in drawing from the study of the bio-chemistry of the tubercle bacillus and its products.

TUBERCULIN EFFECTS IN HEALTH

In considering the effects of tuberculin on healthy animals it is important to remember that the effects of tuberculin in the purest form so far obtainable are very similar to those of the media on which the bacilli have been grown, and the objection holds even when synthetic media have been employed.

There is in general almost complete unanimity in the opinion held by all observers that the effects of tuberculin are due to the nucleoproteid before described. It is conceded that large quantities of dead bacilli cause cachexia with grave constitutional symptoms of slow poisoning when injected into healthy animals. Pansini states that dead bacilli are more toxic than living organisms, and it seems certain that the greatest amount of poison is set free

4. Simon: Arch. of Int. Med., 1903, xlix, 449. 508.
5. Spiethoff: Cent. f. Inn. Med., 1909, xxv, 481.
6. Loc. cit.
7. Wells: Chemical Pathology, 1907.
8. Heile: Ztschr. f. klin. Med., Berl., 1904, lv,
9. Arch. Med. exp., 1899, p. 363.
10. Argebnisse des Path., 1899, vi, 288.

from the bacilli only after their death when they undergo autolysis in the tissues of the host. Quicker, but the same effects can be obtained by dissolving out the nucleoproteid by means of heat and glycerin extracts of tubercle bacilli. There is no question but that the effect of tuberculin on healthy men and animals differs only in degree — not in kind — from those in tuberculous men and animals. Doses of from 2 to 5 mm. can in supposedly healthy men cause all the classic general symptoms of a tuberculin reaction in tuberculous subjects.

Lengelsheim and Borrel have shown that tuberculin is most active when injected directly into the brain, and Guillaim and Laroche demonstrated that it can be fixed *in vitro* by mixture with brain substance. Dead bacilli can be fixed in the same way, showing two things; first that tuberculin is a nerve toxin, and second, that it is partly kept in the bodies of the bacilli and not readily diffused. We are thus justified in concluding that tuberculin is not an exogenous toxin, but an endogenous toxin, consisting of a poisonous nucleoproteid constituent of the bacterial body and relatively specific only when used in sensitized animals. Healthy animals inoculated with the *Bacillus typhosus* give the ophthalmic reaction, showing that the tuberculin test is not truly specific. There is no good reason for believing that the extracted fats of the tubercle bacilli can cause anything but emaciation in massive doses. The claim (Auclair) that they are responsible for caseation has not been substantiated.

In considering tuberculin as a toxin derived from the tubercle bacillus it is very important not to confuse it with a pure toxin of which the poison derived from the tetanus bacillus is a type. This latter organism when grown on suitable media diffuses an exotoxin which is specific; that is when injected in a susceptible animal the clinical picture of tetanus is produced. This effect has been happily called the signature of the bacillus by Beraneck and will serve for its complete identification. In the chronic bacterial infections of long duration in which there is little systemic (tuberculosis) intoxication at any one time as a rule it is difficult to discriminate between the effects of the specific toxin and other results of the life of the bacilli in the tissues. Let us try and reply to the questions, Is tuberculin the specific toxin of tuberculosis? and Does the tubercle bacillus produce a specific toxin?

The formation of tubercles is a characteristic result of infection by the tubercle bacillus, but all are agreed that it is not specific, for such a result can be accomplished by the injection of dead bacilli, by the bacilli of leprosy and in fact, by many organic materials. Further, the tubercle bacillus in enormous doses can kill without the formation of tubercles. In other words, the formation of tubercles is a defensive process called into play by various agencies and in no way necessarily related to the tubercle bacillus. Further, we know that healthy animals can bear considerable doses of the nucleoproteid of the bacilli with only mild temperature disturbances, and as these can be caused equally as certainly by the proteid constituents of the media on which the bacillus have been grown, we are not justified in attributing these effects to a specific toxin. To conclude, the tubercle bacillus does produce a toxin or toxins, and that it is in any degree specific we can only conclude from the effects of the toxin when injected into an already sensitized animal, one in which tuberculosis exists. The existence of the specific toxin may be demonstrated by placing bacilli in collodion sacs in the bodies of healthy animals when after a

time the animal becomes sensitized to doses of tuberculin which formerly it withstood effectively. Beraneck thinks that there is really an auxiliary toxin in tuberculin, one which varies temperature, the true nerve toxin, and another one with vasodilator effects and which is utilized in the various cutaneous and ophthalmic tests, which, however, are not of absolute specificity as other diseases than tuberculosis can sensitize an animal to their action. Recognizing the complexity of tuberculin it is reasonable to conclude that Beraneck is justified in the deduction of two toxins in tuberculin. There seems no doubt that the tuberculin which bears his name is more free from this vasomotor action than the older forms.

THEORIES OF TUBERCULIN ACTION

Wolff-Eisner, keeping in mind that as far as we know the complex nucleoproteid is the one characteristic poison of the tubercle bacillus, and that it is intimately associated with the body of the bacillus, conceives the tuberculous toxin to be composed of ultramicroscopic particles of the tubercle bacillus in suspension in tuberculin (an observation that may be partly confirmed by the fact that there is no appreciable difference in the effects of ordinary tuberculin and bacillen emulsion). These ultramicroscopic particles are themselves of low toxic power as proved by the effects of dead bacilli and their products on healthy animals, but when injected into tuberculous animals are converted into an active toxin by a lysin, the pathogenic action of tuberculin being therefore dependent on a lysin, which is itself the result of a response on the part of the tissues to infection, and which, therefore, must be an anti-body. He states that as this lysin exists only in the tuberculous organism, the reaction can occur only in those affected with tuberculosis. He explains the period necessary for the development of the phenomena of reaction to the time necessary for the lysin to act.

The complete refutation of the Wolff-Eisner theory is found in the work of Beraneck who states his objections about as follows:

This ingenious theory in its present form is hardly acceptable, as it does not include or explain all the facts. Koch has shown that a supposedly healthy man reacts to the subcutaneous injection of from 2 to 5 mm. of pure tuberculin. It is a question of dosage. A healthy animal inoculated with the *Bacillus typhosus* gives the ophthalmic reaction. It is inconceivable that the typhoid bacillus produces a lysin that is as well anti-tuberculous (though the often made observation that typhoid fever will sometimes cure tuberculosis might raise a doubt here). Tuberculous cattle which have reacted to a test dose of tuberculin are refractory to a fresh test for a period of three weeks. During this period it is necessary to increase the dose to obtain a reaction. It is difficult to explain this according to Wolff-Eisner's theory. "If the lysin has converted the dose of tuberculin X inoculated at the first test into an active toxin, why does it not act in like manner upon the second dose X, and why does it act only when the dose has been increased to three or four X at the second inoculation?"

"The effect of tuberculin is more marked and more rapid when injected into the brain than under the skin. In the tuberculous guinea-pig the lethal dose subcutaneously is .02 gm. of tuberculin, while an intracerebral inoculation of .000000001 gm. is fatal (Borel). This ultratoxic effect of the toxin is apparent whether it be in the form of tuberculin or as a bacillary emulsion in which the particles have retained their acid fast properties. This increased toxicity when injected into the brain seems inexplicable according to Wolff-Eisner's theory. The toxin would certainly come more rapidly into contact with the lysin than if injected subcutaneously, but this should also apply to intravenous injections, and experience proves that the toxic effects of intracerebral injections are more marked than those of intravenous injections."

In our opinion there is no doubt that Beraneck's reasoning effectually disposes of Wolff-Eisner's theory, the first part of which—that tuberculin consist of ultra-

microscopic particles of bacilli—though in accord with the findings of the ultramicroscope in the study of colloidal solutions the micellæ of Naegeli, etc., is not incompatible with the previous contention that the toxin and the bacillary proteid are identical as both may have the same ultramicroscopic constitution. This is also Sahli's opinion as well as that of most observers. The lysin of Wolff-Eisner, however, is a pure figment of his imagination.

Beraneck's own idea of the action of tuberculin may be briefly stated as follows:

A tuberculous animal is already saturated with a tuberculous toxin. An extra dose (tuberculin) is not absorbed readily, and thus more is free to act on the already sensitized brain cells, and as is known, tuberculin and brain substance can form a union *in vitro*; a natural deduction would be that the same union is also probable *in vivo*. The local phenomena at the site of the lesion are the result of a positive chemotactic leukocytosis with exudation of plasma. Now, all tuberculin phenomena can be produced by the disease itself, which seems to prove that saturation of the organism with tuberculous toxin is all that is necessary to account for the toxic and local effects of the disease.

The identity of tuberculin and tuberculous toxemia is well established by the work of various observers, notably, Crookshank and Herroun, Maksutro, Malthes and Lenoir, who have found substances with tuberculin effects in the blood and urine of tuberculous animals and persons. Recently, Wassermann and Bruck have identified tuberculin in the livers of tuberculous animals. We agree with most observers regarding the identity of tuberculin and tuberculous toxemia, and recognizing this as a fact, it seems to reduce tuberculin therapy to an absurdity: for one cannot immunize an already tetanic animal with tetanus toxin, nor one poisoned with diphtheria toxin with more of the same toxin. But, however, tuberculin is not a true toxin, rather an endotoxin and relatively poisonous only to those sensitized to its action. Therefore, immunization of sensitive subjects is a real accomplishment.

Let us examine how Beraneck explains this seeming paradox:

"If one endotoxin (tuberculin) inhibits the mechanism of defense, as no one denies, how does the same endotoxin diffused in bouillon or contained in the bodies of dead bacilli (bacillen emulsion) accelerate this mechanism? This contradiction disappears if one admits that the two endotoxins are different though of the same family. By what slight modification in its chemical and physical properties is the natural endotoxin converted into a curative tuberculin? The key to the mystery is the phagocyte. In the end it is a matter of intra- or extracellular digestion by means of leukocytic ferments. If the organism is to live the leukocytes must adapt themselves to the particular conditions caused by the different species of pathogenic bacteria, and this adaptation is only possible by a preliminary digestion or assimilation of the bacteria and their toxins. We know that tubercle bacilli are only digested with difficulty by the leukocytes of a healthy animal. It is the same with the endotoxin. Suppose the endotoxin present in tuberculin has been so modified in preparation that it is more easily assimilated by the leukocytes than is the natural endotoxin; it is then a vaccine. This easily assimilable endotoxin helps the leukocytes to adapt themselves to the conditions created by the tuberculous infection and reinforces the destructive action of the ferments against the natural endotoxin. The aptitude of the leukocytes to assimilate the endotoxin in the vaccine differs not only in different species, but in the same species, which explains the variation in the curative effects of the vaccine."

It can be seen that Beraneck in his explanation has utilized the idea of Metchnikoff which can be more simply stated in this way: Tuberculin forces the leukocytes to develop the intracellular ferments for a species of bacteria for which previously they had no resistance. In other words, the healthy animal has difficulty in digesting tubercle bacilli and their endotoxins, but getting accustomed to feeding on a

blood relative — tuberculin — they acquire the ability to handle the original source of the evil — the bacillus and its products.

Now, in our opinion, considering that every known fact substantiates the identity of tuberculin with tuberculous toxemia, Beraneck and Metchnikoff's theories which directly imply that they are not quite identical become as much pure supposition as Wolff-Eisner's hypothetical "lysin." To our minds this all goes to prove the impossibility in the present state of knowledge of reconciling known facts and clinical experience in the use of tuberculin in theories of its action. Until more light is forthcoming it is better to postpone the enunciation of further theories of tuberculin action, which we think amount to little more than mental gymnastics at this time.

PRACTICAL CONSIDERATIONS

Leaving behind for the present the study of tuberculin from a scientific point of view, or, as we may say, the facts that apparently lead nowhere, let us see if an examination of tuberculin in the light of experience will not lead to a more satisfactory understanding of the situation and validate our right to the title, a rational empiricism. We may well start with a quotation of Phillip of Edinburgh, who states that he has used tuberculin since 1890, and further:

"There has been ample time for experiment, observation and reflection. These have not been less satisfactory because of the reserve and even distrust with which the agent (tuberculin) was commonly treated. Necessary mistakes occurred, and conceptions and methods have shifted from time to time. Looking back it is gratifying to have the opportunity to state that throughout the period there has grown and remained with me, the conviction which is ever ripening, that in tuberculin we have a remedy of first importance in the treatment of tuberculosis. The cases treated have been numerous, of varying kinds and types. The net result is decisive verdict in favor of tuberculin."

In their relation to tuberculin there are several classes of tuberculous subjects. First, and the largest class, those who accept each and every dose with no appreciable effect. These are those regarding whom it is common to say they possess a complete or relatively complete toxic immunity of natural origin. From a prognostic point of view they form the most favorable class of tuberculous invalids. In them nature has seemingly broken at one point at least, by conferring this toxic immunity, the vicious circle of tuberculosis. The only sane deduction from observation of the use of tuberculin in this class is that whatever the element in the immune process may be that is supplied or forced by tuberculin they already have plenty of it, or can make it at need. Additional tuberculin under such conditions is seemingly truly superfluous, and as far as we know, accomplishes nothing either good or ill. It is most regrettable that we have no known method of recognizing beforehand persons of this class; in which event a deal of time and trouble might be saved.

Then there is a small class in which tuberculin therapy would undoubtedly prove injurious, if persisted in. These are those with the most unfavorable prognosis — they develop hypersusceptibility, or as some would say, allergy, and in them all toxic symptoms are exaggerated by tuberculin. No harm is done if Nature's flag of distress is regarded by the immunizator and the tuberculin at once withdrawn.

Finally, there is a third class — the one of greatest interest, in which tuberculin is unequivocably beneficial. Compared with the first it is a small group, though not as small as the second. Our conclusion is that, in this class, those benefited by tuberculin, this agent supplies, or more likely forces, the development in the body of an

antitoxic element of vast significance in some cases in which it is naturally supplied with difficulty, if at all. If a fancy name is preferred it may, following Wassermann and Bruck, be termed an antigen. but practically it makes little difference what it is or what it is called, for we know that it is surely needed in certain cases and, best of all, we are in these, in a position to supply it.

The class benefited by tuberculin can be further divided into first those with fever, in which a normal temperature is often obtained through tuberculin only after the failure of every other known method, including complete immobilization. Among these it is a direct life-saving procedure; for we all recognize the fate of the chronically febrile in tuberculosis. Second, there are those suddenly benefited or cured by reactions, and in them we can safely conclude that there has been a quick addition to the supply of anti-toxic receptors, as well as quite the right degree of chemotactic leukocytosis at the site of the lesion. Third, we have those receiving general and slow benefit, testified to by the amelioration of all symptoms, but principally toxic fatigue. Briefly, the patients feel better when taking tuberculin, and sometimes require its use more or less indefinitely.

As we have shown, in the present state of knowledge it is impossible to construct a truly scientific theory of the action of tuberculin. In the light, however, of its practical application in the treatment of tuberculosis it is possible, we think, to gain something like a mental concept of its action, which is, to say the least, consistent with the facts already known. We must consider for a moment that the differentiation between a chronic and an acute infection lies largely in the virulence of the invading organism. In some diseases, for instance, plague, the virulence is so great, the toxemia so lethal that only an insignificant portion of those attacked are able to recover. In such, however, recovery is relatively rapid, when it does occur. In the acute infections more commonly known to us, typhoid fever for instance, the toxicity of the invading organism is always sufficient, providing it is not overwhelming, to maintain by the stimulation of its presence, the immune processes of the body in a state of activity. On the contrary, in tuberculosis, as well as in other chronic infections, Nature is prone to go to sleep. The tuberculous endotoxin is most slowly diffused — as a rule — not calling into being an adequate antitoxic response. Chemotactic leukocytosis, a most necessary part of the immune process in most diseases is very imperfect in tuberculosis. We can liken the invading host to treacherous spies spread in comparatively small numbers throughout a vast empire, the inhabitants of which, are not aware of their presence. If they were it would be but a moment's work to expel them, and so in the case of tuberculosis, insistently invasive, unpretentious in its beginning manifestations, we sometimes have a sudden flooding of the organism with an excessive dose of toxin. This may result differently in different cases. In some, the body politic is made instantly aware of the seriousness of the invasion. There is an immediate response resulting in a large accession of the immune factors, and when the stimulus is of the right degree the response is, as we know, sometimes sufficient to cure the disease. If not, however, quite sufficient to arouse the organism to the complete expulsion of the enemy, but simply sufficient to repel temporarily, let us say, the invader, who is satisfied after receiving a blow to remain quiet for a time, then the organism relaxes its vigilance and again goes to sleep awaiting at some future time another invasion by the enemy, and each time that the bacillary

host is repelled, but not annihilated, results in increasing exhaustion of the defences of the organism, so that finally the tubercle bacillus, which is never asleep, becomes complete master of the situation. This explains the chronicity and ultimately usual fatal outcome in tuberculosis.

Now, the function of tuberculin is to prevent the organism from going to sleep, and in the light of clinical experience it seems reasonable to conclude that the slow immunization of the sensitized body (tuberculous) against tuberculin, which we have proved clinically to be useful in some cases and useless in others forces the development of an antitoxic body of vast significance in some cases and useless in others, for they already have plenty of it. The fact that tuberculin in some cases cannot accomplish a toxic immunity indicates that the expression "forces something" is reasonable, for in some the immune machinery is so far broken or lacking from the beginning (the defending soldiers so cowardly or so few) that the organism is incapable of responding to force and in such tuberculin simply adds to the toxic state. A complete analog of the use of tuberculin in the face of hypersusceptibility is found in what occurs naturally when nature herself occasionally administers to a patient an overwhelming dose of tuberculous toxin with fatal aliergy.

Realizing, as we must, the absolute value of tuberculin in a certain class of cases, can we discover any scientific substantiation of its clinical position? To this we think an affirmation may safely be given, and with this in mind, it becomes necessary to recall again certain facts: What are the proven effects of tuberculin that support this contention? First, chemotactic leukocytosis, bringing the leukocyte where it can do the most good—to the focus of the disease — and where they have little or no tendency to go naturally; in fact, the bacterial aggressins actually keep them away. It is indeed probable that at least some of the good effects of tuberculin are due to this action, particularly in the cases seemingly benefited by a reaction. Further proof of the value of tuberculin may lie in the experience of Wassermann and Bruck, in which they found tuberculous antibody practically only in the sera of those previously treated with tuberculin. Scientifically, the value of tuberculin is further substantiated by the experiments of Calmette and others who have found that tubercle bacilli possess marked affinity *in vitro* for lecithin. Tuberculin bound with lecithin *in vitro* will not cause reaction in tuberculous animals. Lecithin is, therefore, theoretically the antibody of tuberculin. Lecithin can be produced in healthy animals by the injection of tuberculin. Lecithin disappears from the blood of tuberculous subjects during a febrile attack. Lecithin also has the power of causing lysis of tubercle bacilli.

Regardless of practical import the recent contributions to the bio-chemistry of lecithin, particularly in its relation to tuberculin, are intensely interesting, and if the experiments *in vitro* prove applicable to conditions *in vivo*, then a substance of great practical value has been discovered. Our use of lecithin, however, which coincides with the experience of others in demonstrating its negative action in tuberculosis indicates to us that it is probably a by-product of the immune process under the influence of tuberculin, and in this connection, it is additionally interesting that Wassermann and Bruck claim to have identified tuberculin antibody as lecithin.

In order to appreciate just what we have a right to expect from tuberculin it is reasonable to examine the elements of tuberculous toxic states. In the first place we have the action of the bacillus and its

poisons. Second, in advanced stages, and always an evidence of a relative or complete failure of the immune processes, there are the cyto-, iso- and auto-hemolysins, all of which may be classed as aggressins, and for which when they are once in control of the citadel we have but one known weapon, and that one which cannot be called into play at our behest, namely, fibrosis. Third, toxic states the result of absorption of poisonous proteids (disintegration products) from the lesion itself—vicious autolysis as it may be termed. This is probably what we see in advanced toxic states without fever. Fourth, the interrelation of the above-mentioned elements with disturbed metabolism and catabolism, the result of vast injury to important organs. Fifth, as an addition to an already overpowering complexity, the mixed infections. When the nature of the toxic and other problems in tuberculosis are considered the wonder is that we get as good results as we do, and it seems perfectly clear that tuberculin can never meet but one indication in comparatively favorable cases in which these other elements are relatively lacking.

In this connection it is well to remember that it may be possible to carry the search for a cure too far and that if we possessed for tuberculosis a truly bacteriolytic substance that its injection into tuberculous people would probably cause immediate death by lysis of the bacilli and consequent flooding of the organism with endotoxin, as in immunized guinea-pigs injected with dead cholera bacilli.

Tuberculin therapy has never been found to bear any relation to the so-called antibodies, agglutinins, precipitins, bacteriolysins, and the existence of these substances in a tuberculous subject either treated or untreated with tuberculin is absolutely no measure of a given patient's resistance; in fact, to date the evidence is practically conclusive that with the exception of the diazo reaction in advanced states the measure of the resistance is only possible by reactions *in vivo,* not *in vitro.*

IN WHAT CASES SHALL WE USE TUBERCULIN?

In a general way this question may be easily answered—in all who need it—but so simple a reply will not do without some qualification. When every other indication of treatment has been met and a given patient improves and continues to improve, then tuberculin should not be used. Because, as we have seen, there is a large class in which its use is seemingly entirely negative, and another will prove so susceptible to the toxin that persistence in its use would prove harmful. When, however, improvement ceases, as it often does, then is the happy moment for the introduction of tuberculin, often with most fortuitous results. Again, in those in which there is no manifestation of improvement tuberculin should always be used, except in hectic cases with high temperature in which it obviously cannot meet the indication. In those with a persistent febrile movement of from 99 to 101 F. it is the most efficient remedy at our command and often succeeds when complete immobilization has failed.

Philip of Edinburgh, who as we know, is a recognized authority on the use of tuberculin, states the limits and indications of tuberculin therapy as follows:

"So long as the local process is the main feature, that is, so long as systemic disturbance remains relatively slight, we may anticipate benefit from tuberculin. On the other hand, with advancing intoxication, there comes a time when the introduction of tuberculin ceases to have value, or when its use may do positive harm. Where the system is already soaked with tuberculous toxin the addition of tuberculin will probably make matters worse. The possibility of activation of leukocytes and bac-

teriotropic elements no longer exists. The limits of activation have been passed."

We judge this opinion of Philip to be sound as far as it goes, but when rigidly adhered to it places unjustifiable limitations on the use of tuberculin in clinical practice; for occasionally an unexpectedly brilliant result follows its application in cases to which, using Philip's standard as a guide, it is not adapted. At Saranac Lake, they have been accused, with some justice, we think, of using tuberculin only in cases fairly sure of at least relative recovery without it.

WHO SHALL USE IT?

The answer to this question is as simple as direct; every man who assumes the responsibility for the treatment of tuberculous people, and if he thinks he cannot, or ought not, to use tuberculin then he should refer his patient to some one who can, and if necessary, will. We have no sympathy whatever with the teaching that tuberculin is a specialist's and sanatorium measure. There are many drugs and remedial measures used each and every day by physicians just as difficult to handle as tuberculin. The medical profession as a whole is entrusted with their use, and to make an exception of tuberculin is a contradiction absurd in its proportions. Surely its administration and preparation require care; but do we stop giving morphin because it requires care, or salvarsan because it is difficult and tedious to prepare? To-day the serial dilutions of tuberculin can be obtained ready for injection from many reliable sources.

HOW SHALL WE USE IT?

We mention the reaction method only to recall that in spite of occasional brilliant achievements all the early experience which resulted in the prolonged reaction against tuberculin is a good and sufficient substantiation of the opinion that the reaction method is uncontrollable and capable of vastly more injury to the organism than would be justified by an occasional brilliant result.

We must mention the so-called scientific method of White and Norman of our own country (also suggested by Sahli), who have advanced the opinion and further produced the cases to show that by using the smallest amount of tuberculin which will produce a minimum reaction on the skin, and then taking a division of said amount for subcutaneous use, that the proper amount required in each and every case has been supplied. This practice, on account of its definiteness, is certainly attractive, but does it after all furnish a guide for the cases in which clinical experience has shown tuberculin to be either useless or harmful, and further, is there any reason for thinking that the skin does not have its own degree of sensitiveness or that its reaction index bears any relation to that of the lungs or other organs? We think not, and judge that for the present at least the soundest practice is to adhere to the clinical method which was so ably presented in Trudeau's paper in the *American Journal of the Medical Sciences* in 1907.

Experience has demonstrated to us that especially with the stronger preparations such as Deny's filtrate and Bacillen Emulsion the beginning dose recommended by Trudeau is much too high. In fever cases especially we have found that a tenth-millionth milligram is about the correct beginning dose. We have observed unequivocal reactions at nine-tenths-millionth.

One of us (Bullock) has developed a modification of the clinical method which we feel sure is a long step in advance in tuberculin administration. This method was first proposed at the Los Angeles meeting of the American Medical Associ-

ation in 1911. As far as we know no attention has been paid to it by American observers and, therefore, it has been very pleasant to have the usefulness of the method confirmed by so able a clinician as Eduard Bauer, which he has recently done in the work "The Control and Eradication of Tuberculosis" by many authors and edited by Halliday Sutherland. Bauer is evidently not aware that we had already developed and published the method. We trust that this will not be interpreted as a claim for priority, in which we have no interest, but simply as an acknowledgment of our satisfaction in his confirmation of the method. Sahli, also, with his optimum dose, determined for each patient, indicates the same thing.

Briefly, this procedure, which we have practiced at our institution for the last three years, may be described as maintenance of an effective dose in either febrile or afebrile cases and raising the dose when it has been enfeebled by repetition as confirmed by absence of clinical effect. A practical illustration will serve in making our meaning clear. Suppose a patient exhibits a persistent maximum temperature of 99.3 F. The dose is gradually raised until an effective dose is reached — one which reduces the temperature — but a fraction of a degree it may be; this effective dose is then repeated until the temperature again shows a disposition to rise, when the dose is not lowered but raised, following the temperature up, as it were, in the attempt to again reach an effective dose, until gradually the temperature drops to and is maintained at the normal point. This fortunate result having been observed, from this time on we are guided in the dosage by the principles which obtain in normal temperature cases in which general clinical effect is our guide for repeating or raising the dose. We trust that we have made it perfectly clear that no attempt is made to reach a high dose. Tuberculin immunity itself means nothing whatever in terms of cure or recovery. It is a by-product of tuberculin immunity we seek, which may be expressed in terms of recovery either relative or complete.

We have not mentioned the opsonic method because it is difficult and unreliable, but principally because Jackson and Hawn[11] have apparently succeeded in demonstrating that, after all, what we have considered to be an expression of the immune process in the observation of the variations of the opsonic index is simply a matter of surface tension of the leukocytes and can be produced by concentration or dilution of blood current.

In closing we wish to make acknowledgment of our obligation to practically a large portion of the literature of the subject and claim originality only for our conclusions and our modification of the clinical method of using tuberculin. We trust, however, that we have made plain to others that tuberculin therapy is, after all, a rational empiricism.

11. Arch. of Int. Med., ix, No. 1.

The supreme court of Missouri in rendering a decision recently said in part as follows: "The practice of medicine is not confined to the administration of drugs, nor is surgery limited to the knife. When a physician advises a patient to travel for his health he is practicing medicine. Broadly speaking, one is practicing medicine when he visits his patient, examines him, determines the nature of the disease and prescribes the remedy he deems appropriate."

THE ETIOLOGY OF HEMORRHAGE OF THE NEW-BORN, WITH REPORT OF A CASE*

L. W. HAYNES, M.D.
Detroit

The etiology of hemorrhage of the new-born is attributed to many different conditions. Cases of multiple hemorrhages from surfaces and internal organs generally show severe febrile symptoms and are often due to some form of infection. Their bacteriology is not very well established because nearly all of the cultures have been obtained post mortem only.

One authority[1] says that the clinical picture of many of these cases is very similar to that of an infection, but he believes that the etiologic factor must be looked for in the capillary blood-vessels. He adds that the conclusion as to the nature of the disease is that "melena neonatorum is a congenital malformation of the blood of unknown chemical nature and that the solution of the problem is to be found in a chemical study of the processes of osmosis in the capillary vessels, of the chemistry of coagulation of the blood and along kindred lines which are for the most part new and untouched."

Other than sepsis, the following are often mentioned as etiologic factors: asphyxia, lesions of the vasomotor center, hepatic diseases, icterus, degeneration of capillary walls, obstruction of bile ducts, syphilis (from 2 to 6 per cent.) embolism of gastric and mesenteric arteries, duodenal ulcer, hypoplasia of the blood, etc.

Our knowledge of the etiology is still incomplete and consequently the mortality is high in such cases. Therefore all cases are interesting and should be reported in hopes of adding some new phase to the subject.

I wish to report the following case:

Mrs. H., aged 34. First pregnancy. Patient and husband are first cousins. Menstrual periods had been normal. Syphilis denied. During the last four months of pregnancy, lower limbs were swollen. Urine examinations negative. Labor was long and difficult. Forceps delivery. Eight pound male. There was a one-half inch, not deep, laceration on left forehead.

Mother made an uneventful recovery and was discharged from the hospital on the fifteenth day.

October 12, the day following birth, there was profuse bleeding from cut on head. Four stitches taken.

October 13. Vomited small amounts of watery fluid and small blood-clots. Had wound bleeding, not profusely but continuously. Stitches removed and three deep catgut stitches taken and wound packed with gauze and collodion.

October 14. Head wound continued to bleed a small amount. Five silkworm stitches were taken and wound was packed with styptic gauze and this controlled the hemorrhage. The baby had not nursed well and milk was pumped from the mother's breast every two hours and given to the baby. Late at night, bleeding began again from the wound on the head. As I was unable to obtain horse serum, 2,000 units of antitoxin were used. During the remainder of the night no bleeding occurred and the baby took his feedings well.

October 15. Some bleeding from nose. Nursed from breast every two hours. Up until now the stools had been good. During the afternoon

* Read before the Wayne County Medical Society, May 27, 1912.

1. Dr. Brewer.

they were somewhat green in color. No bleeding from the head.

On October 16, 17, 18, 19 and 20, the baby nursed well. No bleeding. However, the stools did not look as good, becoming darker in color.

On October 21, a culture was taken from the head wound and the report which I received from the laboratory was "*Staphylococcus pyogenes albus.*"

On the 22nd the baby was too weak to nurse and cried considerably and was not urinating. Spirits of nitre was given. Dark green stools. Left eye was swollen shut and the tissue between the eye and the wound was extravasated with blood, although there was no bleeding from the wound. This condition increased, the baby did not urinate and died the following morning.

The baby's weight decreased from eight pounds at birth to 6 pounds and 15 ounces on the fourth day, then increased to 7 pounds and 8 ounces on the sixth day, when it gradually decreased until death.

The temperature was 101 F. on the second day and gradually increased to 102.5 F. on the eighth day. From then until the end the temperature ranged from 100 to 100.8 F. in the morning and from 103 to 103.4 F. in the afternoon.

The pathologic report at autopsy was as follows:

Cloudy swelling and vacuolation of the cells in certain portions of the liver. Both kidneys showed marked hyperemia, particularly between the long tubules. The glomeruli were greatly injected and in certain portions the cortex showed organization; in others, necrosis. The character of the adrenals was not remarkable.

Diagnosis: Acute hemorrhagic nephritis and hepatic insufficiency.

512 Washington Arcade.

NEW DETROIT GENERAL HOSPITAL

The new Detroit General Hospital will be built on the unit ward plan, connected by an underground tunnel, the ward buildings to be not over two stories in height. Three buildings are now in course of erection at a cost of $350,000, and will be ready for occupancy by January 1, 1913. The service building will cost when equipped $200,000. The board of trustees will select for the attending staff the best available physicians and surgeons. Teachers in "proprietary" medical schools, however, shall not be eligible to staff membership. The Detroit General Hospital is an institution free from all alliances, organized with as many departments as are necessary, with one chief in each department who is to be held responsible for the development of this department. As many associates and junior associates as are necessary will be chosen, the number to be increased as needed. No member of the staff can develop to the detriment of the institution. His recognition comes through the development of his department, every man to get credit for his work and all to stand or fall by their individual merit. When for any reasons, therefore, any man ceases to be chief of any particular department there will be another well prepared to take his place and assume his responsibilities. In short, the institution is greater than, and independent of, any man, or of any group of men. The man is subservient to the institution and not the institution to the man. Postgraduate teaching will be done from the opening of the institution. The following is quoted from the "Statement of Principles" forming the caption of every subscription list: "All teaching facilities of the institution will be used to further scientific study; and in case the State should make an application to use the facilities for the University of Michigan, such application will be considered favorably, subject to such regulations as may be mutually agreed upon. The facilities of the hospital will be available to all physicians and surgeons in good standing. Any specialist known to divide fees, who collects fees for family physicians, or otherwise offers or gives financial inducements to family physicians for referring patients, or the family physician known to accept remuneration from the specialist for referring cases, shall not be considered in good standing.—*Lancet Clinic.*

CONSTIPATION IN THE INFANT: ITS CAUSES AND TREATMENT*

C. G. GRULEE, M.D.
Chicago

INTRODUCTION

This is a subject which covers such a wide field that it will probably be very difficult to give an adequate idea of it in all its phases in a short paper. However, it has seemed to me that there are certain underlying features which cover practically all cases of constipation, and if we may eliminate from this discussion constipation due to anomalies of the gastro-intestinal tract or tumors of the abdominal viscera, and regard constipation only from the standpoint of nutrition and resultant conditions, we may be able to reach some definite conclusions.

DEFINITION

In order to be exact in our consideration of this subject, it will be necessary to designate definitely what is meant by the term constipation. Shall we regard constipation simply as a decreased number of stools in a given interval of time, or shall we eliminate from consideration those cases where the number of stools is reduced because of the small amount of food taken? It seems to me that the latter group of cases which, by the way, are more frequently seen in the breast-fed infant, cannot be regarded as true cases of constipation, and should be left out of consideration in this instance. It might be mentioned that constipation as a symptom of breast-feeding is of very rare occurrence unless the gastro-intestinal tract has been injured by undue medication.

VARIETIES

If we consider constipation in the infant from a broad standpoint, we may divide all cases into one or both of two varieties. The first of these is that due to the abnormally hard and dry content of the intestinal canal; the second due to atonic condition of the intestinal musculature. Not infrequently these two causes work together or the second is the result of the first; but the second type of constipation is not in all instances the direct result of constipation due to a hardened and dry content of the intestine.

THE FIRST VARIETY

The first variety is unquestionably due to the consumption of large amounts of cow's milk. It is most probable that the constituent of cow's milk which produces this affection is the fat. The large production of fatty acids from the ingestion of too large amounts of cow's milk is neutralized in the intestine by the calcium and other salts, the calcium salts thus forming with the fatty acids insoluble soaps. These insoluble soaps give to the stool its dry, crumbling consistency, and the white color is due to urobilinogen. The presence of these fat soaps indicates a condition of which the constipation is only a symptom. Either the neutralization of the fatty acids by the alkalies and hence the withdrawal of the latter from

* Read before the Kalamazoo Academy of Medicine, April 23, 1912.

the system, or the excessive absorption of the fatty acids produces in these cases an acidosis. This is evidenced by the high ammonia content of the urine. We have in these cases, then, a distinct clinical entity. Happily, the indications for treatment as they appear in discussing the cause work out very well in practice. The reduction of the fat in the food and the replacement of this with carbohydrates offer the best method of treatment. It is not enough, however, to simply use some carbohydrate. It is better to use carbohydrate in three forms: the milk sugar, perhaps in the amount which is contained in the milk; the starch in the form of a thick barley water, while the active principle of the carbohydrates, the malt sugar is best given in the form of malt extract. One must, however, be careful in giving malt extract not to give too much. It is rarely necessary to give over 1 ounce in twenty-four hours, and usually the best results are obtained with half to three-quarters of an ounce. It is not always possible to overcome cases of fat constipation by the simple change of food. It is, however, practically always possible to overcome the hard consistency of the stool and produce a stool which, though possibly formed, is yet soft when smeared. The reason that fat constipation is not always amenable to treatment is that frequently in the more protracted cases there has developed an atonic condition of the gastro-intestinal musculature, with the result that no matter how ideal the conditions may be in the intestine it will be necessary to produce a diarrhea in order to overcome the constipation by dietetic means. Since this result is not desirable, it will be necessary for us to resort to some other expedient, in order to get results.

So far as my experience goes, I have been unable to attribute constipation in the infant directly to any other dietetic error. By this I do not mean that all cases of constipation are found in children who have been fed on large amounts of milk fat, but rather that the constipation seen in the artificially fed infant is either the result of the hard, dry masses in the stool caused by the presence of calcium soaps or the result of an atonic condition following some excessive irritation of the intestinal mucosa.

THE SECOND VARIETY

We come now to the second and most important form of constipation in the infant — the atonic form. This form is very frequently met with in breast-fed infants, and is directly the result of too great medication in the early weeks of life. Both physicians and nurses have come to regard it as necessary in many instances to give doses of castor oil to very young babies. They have deemed it wise to clear the gastro-intestinal tract early. Why this should be, I have never been able to conceive, but that it is followed very frequently, if repeated often, by a severe atonic form of constipation has been my observation. Not alone the giving of cathartics by mouth, but the repeated use of enemas seems to act in very much the same way. This condition is unquestionably allied very closely to the forms of constipation which follow so frequently after severe diarrheal attacks. It is rather the rule than the exception that a severe diarrhea is followed by a relatively severe constipation. We also may include in this category that atonic constipation which follows the fat constipation, or rather is a result of the long existence of fat constipation. All these conditions may be explained by the previous presence of an irritation to the gastro-intestinal mucosa, which was excessive in degree, the removal of which irritation left the musculature inert and unable to respond to the stimuli from the normal bowel content. This is frequently shown by the fact that when the stool is passed in these conditions, it

is found to be soft, homogeneous and in no way different from normal, except that perhaps the tendency to the formed stool is rather marked. This can readily be explained by the withdrawal of a certain amount of water during the lengthened stay of the bowel content in the large intestine.

PROPHYLAXIS

Having analyzed this condition, it is necessary to look into the treatment. First, as to the prophylaxis. It is very readily seen from the classification of the causes that these can be overcome by rational foresight. In the first place, drugs should never be given to infants under 2 weeks of age for the purpose of causing the passage of feces. The idea that a child must have four or five stools a day in order to be normal is an erroneous one. The breast-fed infant will have sufficient bowel movement if the stools are passed twice a day, and it is usually considered that the artificially fed infant should pass stool once a day. We cannot say that more frequent defecation is abnormal, but we can certainly say that as many as four stools a day in the artificially fed as well as the breast-fed infant is indicative of the presence of an overirritation in the gastro-intestinal canal, and should be looked into as such. With a conception of the normal, it will be noted that very few young infants pass fewer than the normal number of stools in twenty-four hours unless they have previously been drugged or the subject of flushings, etc. In a prophylactic way, then, the first thing is to prevent overirritating the gastro-intestinal canal with cathartics. This means not only castor oil and calomel, but magnesia, rhubarb, etc.

TREATMENT

The second indication is to treat carefully all cases of fat constipation. The only prophylactic which can be of value in those cases of constipation which follow acute diarrheas is the prevention of diarrhea, and this covers such a wide field and has brought forth so much activity not only on the part of the profession, but of the laity, that it will be entirely out of the question to cover it here.

After the constipation has developed, much can be done to bring about results. In the first place, the indication is to stimulate the peristaltic action of the bowel wall, and this can best be done by the use of suppositories. These should not be inserted entirely inside the rectal sphincter, but should be held in place in the rectal sphincter in such a way that the irritation from the suppository to the rectal sphincter will bring about a reflex peristalsis of the bowel.

Four varieties of suppositories are used. The most simple and one which can be obtained in any home is the oiled paper cone. This is only serviceable in the lighter cases of constipation. The second variety, the gluten suppository, has, in my hands, been of no value whatever, and will be disregarded. The third variety, the long glycerin suppository, is of great value, and should be employed in most instances. In many cases the use of the soap suppository is of value, especially where it is not possible to procure good glycerin suppositories. The soap suppository, too, has the advantage that it can be made up at the home and is always to be had.

In the use of suppositories one should see that they are inserted at the same time or times each day. This is necessary to produce a regularity in the bowel movement, and will tend to bring about spontaneous peristalsis without the stimulation of the suppository.

We hear of cases of low-grade inflammation of the rectum produced by the

frequent insertion of suppositories, but such cases have not appeared in my practice, although I have used suppositories for many years, but never oftener than twice a day. It is frequently necessary to use suppositories in this manner over weeks and months. Length of treatment in a large measure depends on the previous duration of the existing cause.

In addition to the suppositories, abdominal massage is sometimes of value. This is best given with a kneading motion, beginning in the left iliac region, and following the course of the colon around to the right iliac region and back. As a rule, the error that is made in this is that the massage is not vigorous enough rather than too vigorous.

Other measures which may be employed, but which are not as distinctly indicated, and which may by their repetition increase rather than decrease the constipation, are the frequent use of enemas or flushings and the giving of cathartics. As to the former, it should always be considered as a temporary measure, to tide over a period of severe constipation. If one feels that it is absolutely necessary to give cathartics in these cases, the one which probably gives the best results when continued over quite a long period is senna. This is a mild cathartic and can be given in the form of a candy made up with molasses and figs. (Two cups of molasses; one-half pound of figs, chopped fine. The whole boiled for a half hour over a slow fire — being careful not to scorch. Immediately on removing from the fire add 1 ounce of powdered senna. Spread on greased pie-pan and cool. Dose must be determined in the given case.)

Other cathartics, such as castor oil, calomel, milk of magnesia, etc., only tend to increase the constipation.

One other remedy may be mentioned in regard to these cases of chronic constipation, and that is a change of diet, so that the bowel content will be sufficiently irritating to increase the intestinal peristalsis. Sometimes fruit juices are of use. Many have employed orange juice, prune juice and syrup from figs in this way. As a rule, this method of treatment is not altogether satisfactory. Olive oil has been employed to a great extent, but never by me with any success.

In the older infants, that is, up to 18 months or possibly 2 years, the giving of such coarse foods as coarse gruels or vegetables which contain much cellulose frequently gives excellent results. However, when a constipation has lasted as long as six or eight months, it is usually necessary to employ other than dietetic measures to bring about normal defecation.

There is no one measure which is of any greater value in the treatment of these cases of chronic constipation than absolute regularity. The child should be taught to move the bowels at a certain time each day. If it is possible to do this without the use of mechanical measures or drugs, so much the better. If not, the drugs should be administered in such a way that the bowel movement will come at a given hour. This can usually be regulated very nicely in the individual case.

If I may recapitulate now as to the treatment of atonic constipation, I would say that the indications are for stimulation of the bowel musculature. Such stimulation is best brought about by the use of suppositories, which are a mechanical stimulus and act by irritating the rectal sphincter which, in turn, causes reflexly an increase in the peristaltic action of the intestinal musculature. The use of cathartics is usually not to be favored. Changes of food may at times bring results, but usually only when aided by the use of such mechanical means as suppositories and massage.

A RÉSUMÉ OF A YEAR'S SURGICAL WORK*

ANGUS McLEAN, M.D., AND CLARK D. BROOKS, M.D.
Detroit

In presenting this subject to this society it is not our object to dwell on any particular phase of surgery. We wish more particularly to point out some of the elements of success as well as those of failures in general surgical work. Deductions will be made from our experience during the past year.

As years roll by we are continually becoming more alert to the many complications that are liable to arise in medicine. In former years many of these were allowed to take their natural course often with disastrous results. At present we are more alive to the situations and by early intervention oftentimes avoid grave complications. In the same manner we have also come to realize that any procedure, whereby we may arrive at a proper diagnosis, make at least a fair prognosis and institute proper treatment, is always of value to the physician. It is our duty to our patients to explain to them or to their friends the relative value of operative or non-operative treatment in the many conditions that come under our observation. In the past few years many brilliant results have been achieved in surgery, especially is this true in preventive surgery. Not only is this due to the surgeon, but to the general practitioner who makes the proper diagnosis and advises the appropriate treatment.

Often the efforts of the family physician are minimized and proper credit is not given him where such is due. In him we find the man carrying the family responsibilities, acting as a counsellor, a friend as well as a physician. It is only in conjunction with him that we can hope to attain the ideal. The early diagnosis by the family physician in cases, for instance, of hyperthyroidism, appendicitis, carninoma, renal calculi, etc., and his cooperation with the surgeon are really very important factors for the successful outcome of a given case.

Physicians doing special work depend almost entirely on the general practitioner for patients, and after consultation with or treatment by the former, they are again referred to the latter. Harmony must exist in order that each one may do his best work. There are no secrets in the realm of ethical medicine and surgery. All aim at all times to labor for the good of our fellow men and we owe it to each other, and to those depending on us, to do our share. Of the questions often put to the family physician are: Will such an operation cure me? What will be the danger of such a condition if left alone? What is the mortality in similar cases? In this paper we will attempt to review a year's work in general surgery, with reference to diagnosis, prognosis, preliminary treatment, operations, postoperative treatment, mortality and causes of mortality.

Many details must of necessity be left out on account of space. Under this consideration will be included some 1,100 operations. When more than one operation is performed in a given case, the case

* Read before the Wayne County Medical Society, March 4, 1912, and before the Calhoun County Medical Society, March 5, 1912.

will be counted as one and classified according to the major part of the work done. We will classify the various operations in relation to anatomic regions, such as the cervical, pectoral, stomach, gall-bladder, uterus, pelvic appendages including excision of fallopian tube, oöphorectomy, displacements, etc., hernia, umbilical, inguinal and femoral; operation on kidney, ureter and bladder, and miscellaneous operations which will include a large series of cases such as operations on the head, fractures of all kinds, dislocations, plaster casts, plastic operation on the pelvic outlet, rectal operation, amputations, etc.

DIAGNOSIS AND PROGNOSIS

Except in cases of emergency a diagnosis should not be attempted without a carefully written history of the patient. This is absolutely essential for thorough work. By so doing many mistakes will be avoided; mistakes that are usually due to negligence and carelessness more than to ignorance. After a detailed history every patient should receive a careful general examination, with special reference to his general condition, appearance, etc. If the history at all suggests certain conditions, a special analysis for these conditions should be insisted on. By these we mean special stomach analysis, blood examinations, including the Wassermann test, *x*-ray examinations to test intestinal peristalsis, the position of abdominal viscera, kidney stones, fractures, etc.; cystoscopic and ureteral examinations with functional tests for symptoms referable to the urinary tract, ophthalmoscopic examinations, etc., all these we have found of inestimable value in arriving at correct diagnoses.

OPERATIONS

Patients often dread the anesthesia more than the operation, and very properly so. They would dread it more if they were able to realize the danger connected with its administration, a danger much increased when improperly given. A novice should never be allowed to give an anesthetic. He should first be taught for a considerable period of time by a skilled anesthetist. Ether is the anesthetic usually given. Nitrous oxid gas and oxygen are suitable in many cases and are coming to occupy a well-deserved field in anesthesia. It may be used in the place of ether in a large majority of cases. We usually give morphin sulphate, gr. $^1/_6$, atropin sulphate, gr. $^1/_{150}$, about twenty minutes prior to operation in adults. In some cases, notably goiter cases, we also give chloretone, about gr. x, two hours before operation. Whatever anesthetic is used, the rule is to "use as little as possible," just enough for the desired effect.

All anesthesia should be discontinued at the earliest possible moment. Our experience is that all anesthetics are dangerous. We should try and suit the anesthetic to the patient. Many operations in this series were performed with local anesthesia, using eucain or quinin and urea-hydrochlorate. Under local anesthesia operation on the gall-bladder, hernia operations, hemorrhoids, etc., were performed without discomfort to the patient or surgeon. All operations are performed as expeditiously as is consistent with thorough work. Hemorrhage is instantly controlled. The danger of shock is practically *nil* if careful attention is paid to the temperature of the operating-room, exposure of patient, and to as little handling of the abdominal viscera as possible.

POSTOPERATIVE TREATMENT

In many cases operative procedures remove the cause but do not immediately cure the condition. Many such cases will need judicious, careful and prolonged

after-treatment. After the ordinary operation, however, patients will usually make good recoveries if left alone. Careful attention to the emunctories is necessary at all times. Some anodyne will usually be found necessary for a few days. We find it best to give little morphin and that in small doses only. On the second or third day codein will suffice. Ordinarily patients are allowed water freely within a few hours after operation. All patients except those in whom perineal operations have been performed are allowed to urinate voluntarily. Such cases as are unable to do so are catheterized every twelve hours or when distressed. Usually no cathartic is given until the fourth or fifth day. An enema is given on the second or third day and usually daily thereafter if necessary. In stout women after hysterectomies for large tumors, etc., castor oil is given the day after operation. We find castor oil rather best adapted as a general cathartic, although there are of course many others which may act just as well. As a rule patients vomit not at all or not more than once or twice after ordinary operations. Careful watch is kept, and if vomiting continues, gastric lavage is promptly performed and repeated if necessary. Too much importance cannot be attached to this, and if neglected will greatly increase our mortality.

Stimulation is given in form of saline per rectum after severe operations. We seldom resort to any hypodermic stimulation. Our belief is that such is often harmful and has little to recommend it. In peritonitis and cases requiring drainage the head of the bed is elevated, saline given per rectum, and stomach kept empty by abstinence of fluid and gastric lavage.

MORTALITY

One year ago one of us (Angus McLean) in a report of 2,000 cases operated on in the previous three years, stated that the surgeon's greatest apprehensions were ileus and embolism. At this time we still look on these two conditions as the most serious complications that are liable to follow a surgical operation. The former, ileus, if treated promptly and properly, will, however, result fatally in very few cases. Embolism, on the other hand, can be little if at all benefited by any kind of treatment. What is understood by ileus? Ileus, from the Greek word "eilein," originally means a twist, but by usage it has come to mean any condition with symptoms that resemble those following a volvulus or twist in the bowels. In the postoperative ileus two varieties are met with, namely, the adynamic ileus due to a paralysis of the musculature of the bowel, simply causing a stagnation of the intestinal contents, and the mechanical, due to a kink in the bowel, an adhesion causing a constriction of its lumen or some other physical obstruction to the onward flow of the intestinal contents. As far as we are concerned at the present a differentiation between these two conditions is not always necessary for whatever the cause the altered physiologic process resulting from the pathologic condition is similar, and the immediate treatment is identical.

How can we recognize ileus? For from six to twelve hours following anesthesia there is always more or less paralysis of the bowel. After twelve hours meteorism begins to appear, and if this increases, if flatus is not passed, if nausea and vomiting increase and the vomitus becomes dark and especially if after the act of vomiting the stomach-tube still reveals large quantities of unvomited material in the stomach, then the condition of ileus is present. The only question then left to decide is, Can it be overcome by ordinary measures such as repeated stomach lavage, enemas,

the early administration of castor oil and the like, or is the more radical treatment, an enterostomy, indicated? This is a very delicate matter to decide and one which can only be determined by the progress of each individual case. The only rule that can be given is: "Do not postpone radical treatment too long." It is better to err on the side of safety than to procrastinate until the patient's condition has reached such an extreme state when all known measures will be of no avail. Extreme ileus can often be aborted, as it were, by early administration of castor oil, early and repeated stomach lavage (every two hours) and by enemas, but if in spite of these measures instituted early, the condition persists, then, as said before, enterostomy should not be delayed. Enterostomy in itself is not dangerous. It can be done with absolutely no shock to the patient. A general anesthetic is not at all necessary. Why then hope against hope and postpone radical treatment until it is too late?

When meteorism is pronounced it is followed by an immense transudation of fluid from the intestinal and stomach mucosa as evidenced by the great amount of vomitus, no one that has seen a single case of this type will deny. This loss of fluid must be detrimental to the patient. Is it this loss of fluid or the absorption of some toxic material that is responsible for the grave and fatal condition of these patients? We do not believe that it is due to an absorption of toxic material, as Dr. R. C. Andries in a paper entitled "Experimental Ileus," read before the Wayne County Medical Society, March 25, 1912, showed very conclusively. Our attention must therefore be directed toward the meteorism and toward the loss of fluids as prominent factors in the causation of the extreme condition of the patient. This is precisely what an enterostomy and the administration of salines do. The distention of the bowel, which is continually increasing and at the same time increasing the degree of paralysis of the bowel, just as overdistention of the bladder causes a paralysis of the musculature of this organ, is at once relieved by an enterostomy. The administration of saline replaces the lost fluids in the vessels and helps to establish normal blood-pressure and normal circulation. In other words, an enterostomy lessens intra-abdominal pressure almost instantly. The distention, by the gradual accumulation of gas, has been the factor which caused the intestinal mucosa to pour out such enormous quantities of fluids, the loss of which is partly responsible for the critical condition of the patient. When this is overcome, the irritation in the paralyzed gut is allayed and the further influx of blood to the abdominal vessels is prevented. In former years, i. e., before we realized the great benefits of enterostomy in the treatment of ileus, there have always been a number of deaths due to this complication. During the past year, however, we have more than ever followed the rule: "Do not wait too long before performing an enterostomy," and as a result there has been only a single death from this cause. This fact alone speaks for itself.

The second postoperative condition we still dread is, as said before, thrombus and embolus. Many different theories have been advanced for its appearance. The principal two are, first, the mechanical theory which attributes the condition as being due to a clot formation at the site of injury to the intima of blood-vessels, fragments of which become detached, flow in the blood-stream and lodge in the pulmonary or cerebral vessels; and, second, the septic theory, which attributes the beginning clot in the blood-vessel to a clumping of bacteria at the respective site.

From the thrombus thus formed, the embolus is supposed to become detached. For our present purpose it matters little just what the exact origin of an embolus is, except that if the mechanical theory be correct (and we are inclined to think that it is) then as a matter of prevention every unnecessary injury to the blood-vessel, especially to the veins, should be most scrupulously avoided. Empirically, we have learned that emboli rarely follow operations in the upper part of the abdomen. Personally, we have never encountered a case in which an embolus has followed an operation of this character. Those which we have seen have followed either operations on the broad ligaments, operations on the prostate gland or appendix operations. The cases of embolus that have occurred in our experience have always appeared suddenly, absolutely without warning. This is quite contrary to the experience of Dr. Hans Michaelis,[1] who recently has published an article in which he says that in a large percentage of emboli, premonitory symptoms for two or three days in the form of an accountable subnormal temperature are present. He claims that in all cases in which such a subnormal unaccountable temperature is present our suspicion of embolus should be aroused. Our observation will then reveal that some of the obscure conditions can be explained by an embolus of a larger or smaller artery somewhere in the anatomic makeup. Michaelis' observations may be correct, but we have not noticed the premonitory symptom he speaks of, and since we are on the lookout for this premonitory sign there has not occurred a single case of embolus in our practice. All we can say is that when embolus occurs it occurs suddenly, and usually when an uninterrupted convalescence of the patient is assured. Any method of treatment is of no avail, for death, in cases of pulmonary and cerebral embolus (and these are the cases to which we refer) follows in a very few minutes in spite of any treatment we may institute.

1. München. med. Wchnschr., 1911, No. 2.

ENUMERATION OF CASES

In the past year there were forty-three goiter operations, with no mortality, twelve radical operations on the breast for carcinoma and four benign growths, with no mortality. There were thirty-nine operations on the gall-bladder, seven accompanied by operations on the common and cystic ducts and two cases of ruptured gall-bladder. In all these there were two deaths, one of which occurred on the twenty-third day from hemorrhage in a jaundiced patient 71 years of age, and one thirty-six hours after operation from acute pancreatitis.

There were twenty-three cases of operation on the stomach with three deaths, all of which followed palliative gastro-enterostomies for inoperable carcinoma. There were 180 appendectomies without drainage, with no mortality. There were sixty-seven cases of local and seven of general peritonitis due to appendicitis with seven deaths, two of which occurred within thirty-six hours after entrance to the hospital, and one from embolism seven days after operation. There were thirty-five appendectomies performed along with pelvic operations with no deaths. There were thirty-four abdominal hysterectomies with two deaths. One of these occurred in a woman of 60, with chronic salpingitis and metritis, and the other in a woman aged 40 with specific salpingitis and uterine fibroma. Death in both these cases was due to peritonitis. There were fourteen cases of vaginal hysterectomy with no death. There were nine operations on the kidney other than nephropexy with no death. There were 164 pelvic operations;

included in this series are fourteen cases of ectopic pregnancy and thirty-five appendectomies. Among these there were two deaths, one occurring on the fourteenth day, from pulmonary embolism, and the other one thirty days after removing a large suppurating adherent ovarian cyst, from intestinal obstruction. There were fourteen prostatectomies with two deaths. One of these had besides an enlarged prostate a severe pyelonephritis, and death occurred on the twelfth day from uremia; the other, an advanced case of carcinoma of the prostate died of exhaustion. There were sixty-eight hernia operations with no mortality.

DEATH

Besides the eighteen deaths that occurred in the conditions above enumerated there were others following accidental injuries, burns and various miscellaneous affections; these were as follows: two deaths due to fracture of base of skull; one due to first, second and third degree burns, sixteen hours after admission to hospital; two within thirty-six hours, after admission into the hospital from induced abortion (one self-induced and the other following a criminal operation); one due to pneumonia following streptococcus infection of the hand forty-eight hours after admission; one due to malignant edema, following a crushing railway accident; one due to sepsis following compound comminuted fracture of both legs; one three months after a fracture of the dorsal vertebræ; one twelve hours after an exploratory laparotomy for aneurysm of the celiac axis; two following a colostomy to relieve intestinal obstruction originating in a carcinoma of the colon; one from embolus in a man 63 years old following a suprapubic cystotomy for carcinoma of the bladder. The total mortality in the 1,100 performed during the past year is therefore twenty-nine, or less than 2.5 per cent.

The mortality in the 652 major operations is nineteen, or 2.67 per cent. The mortality in the 652 major operations, if we omit the cancerous cases and those complicated by peritonitis prior to operation, is four (three patients died of embolus) and one of intestinal obstruction due to adhesive bands) or 0.006 per cent.

307-8 Washington Arcade.

THE ETHICAL SNEAK THIEF

You no doubt know these, who clasping their hands and raising their eyes toward heaven, assert that others may do as they think best, but as for them and theirs they are strictly ethical. Selah! These are they that steal your patients by looking shocked when some part of your treatment is being told, or by keeping silent when he should defend you, by making needless examinations, and saying "and did your doctor tell you that," with emphasis on the that. He smells your medicine, corks it up hastily and hands it back to you without a word, but proceeds to write a new prescription. This kind are hard to name and stay within the bounds of publishable words. The kind that makes you want to hire a man who can do it justice. The kind of pious old saint who tells the women of the family all about it after you have left the house. You know him. Of course you do. Makes long prayers in the synagogue. Calls the Lord up next morning and asks him if he got that message? O, he's hard to beat.—*Medical Program*, Washington County (Pa.) Med. Soc.

The Journal of the Michigan State Medical Society

Published under direction of the Council.

PUBLICATION COMMITTEE:

A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
W. J. DuBOIS, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek.
(Ex-Officio)

EDITOR.

WILFRID HAUGHEY, Battle Creek.

EDITORIAL COLLABORATORS:

J. V. White, Detroit, 1st District.
George R. Pray, Jackson, 2d District.
....., 3d District.
C. E. Boys, Kalamazoo, 4th District.
T. De Witt Gordon, Grand Rapids, 5th District.
C. B. Burr, Flint, 6th District.
Daniel Conboy, Bad Axe, 7th District.
B. B. Rowe, Saginaw, 8th District.
Robert E. Wells, Traverse City, 9th District.
F. E. Ruggles, Bay City, 10th District.
V. A. Chapman, Muskegon, 11th District.
E. H. Webster, Sault Ste. Marie, 12th District.
C. M. Williams, Alpena, 13th District.
Reuben Peterson, Ann Arbor, 14th District.

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A.M., M.D., Editor, 24 West Main Street, Battle Creek, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

Subscription Price $2.00 per Year, in Advance.

AUGUST

EDITORIAL

Members sued or threatened should communicate at once with the chairman of the Medico-Legal committee, SUGGESTING but not RETAINING a local attorney. Power to engage local attorneys rests entirely with our general attorneys. Complications have arisen in several cases, and considerable trouble and unnecessary expense followed, because members have not observed this rule.

WALTER H. SAWYER, PRESIDENT

Those who have heard the genial laugh of our President, need no assurance that he is a companionable man, cordial, affable and in full accord with the social side of professional life. Those who know his never flagging interest in his patients, his pleasure in the problems of practice, his resentment at the intrusion of business care on his chosen work, need not be told that he is an earnest and scientific practitioner, abreast of the latest. information and zealous in its application to his patients' welfare. And those who have been privileged with a glimpse of those close ties which bind physician and patient, know that long since were well riveted those intimate bonds which mark the physician's highest success, the deep appreciation of his patients and the love and confidence of his fellow physicians. These are marks of which any disciple of Æsculapius may well be proud, and they belong in rich measure to this friend of ours.

We know his energetic and self-forgetting services on our legislative committee; we have marked his timely and able work for the profession on the State Board of Registration in Medicine. We feel that the profession's interests are well cared for by him on the Board of Regents of the University, and we bespeak for him as our President that full confidence to which he is so justly entitled. As friend, adviser, counsellor or genial comrade the Society will, we are sure, find in him all that our President should be. C. W. H.

ETHICS

VIII. PROSTITUTING THE PROFESSION

[The following editorial appearing in *The Journal of the Missouri State Medical Association,* for July, 1912, so well expresses our views that we are this month giving it place in this series of ethics editorials.]

"A St. Louis physician supposedly in good standing recently gave voice to his regret that the ethics of the medical profession forbids the man of medicine to advertise. What makes the circumstance

WALTER H. SAWYER, M.D.

PRESIDENT MICHIGAN STATE MEDICAL SOCIETY, 1913

CA

doubly unfortunate is that this expression was given before a class of graduating students in one of the medical schools of that city.

"The desire to see the profession become a trade is inconsistent with sincere devotion to the science, and the conversion of the practice to a mere opportunity for the acquisition of dollars and cents conflicts with the real purpose of medicine, both from the standpoint of the profession itself and from the standpoint of the patient.

"It is a short step from the medical advertiser to the grafter and the quack; and once the bars are let down medicine will be prostituted to the purposes of the sordid ends of the rapacious and the mercenary. The strictness with which legitimate medicine has observed the non-advertising dictum has been a glory for a thousand years; the true physician has ever regarded the affliction of his patient as a sacred trust. No scale of prices can measure the sufferings of mankind. The spirit that wantonly parades these distresses before the world to exploit the healing methods of an individual, is incompatible with a real desire to alleviate the ills the flesh is heir to.

"What an inspiration to bestow on a class of young physicians—the regret that they cannot trade their privileges to the highest bidder! What a standard for their emulation — the regret that they are not free to refuse the mite of the widow for the muckle of the rich! The golden rule becomes the golden rod, to drive the sick poor back to their hovels; to scourge the halt, the lame and the blind out of the way when they fail to measure up to the inexorable and unbending rod of gold. This is the inevitable finale of the time that sees the advertiser legitimatized by the ethical and organized profession. Commercialism has at times debauched nearly every sphere of human endeavor, leaving almost no field unsmirched; but the taint so far has left our profession untouched to a degree that has redounded to the honor and maintained the high ideals of the calling.

"If the outrageous spectacle of a physician preaching the doctrine of dollars and cents to a graduating class of medical students emphasizes one thing more than another it is the necessity of instituting a chair of medical ethics in medical schools. Hasten the day when the morals of medicine will cease to be regarded as superfluous in the curriculum, but will be as carefully guarded and as faithfully taught as are the therapeutic doctrines.

"The evils of fee-splitting, the shame of indiscriminate drugging and the crime of unnecessary operating, where they are found within the pale, occur as a logical sequence of the disregard of the importance of teaching the ethical tenets of medical practice in our schools. When this lamentable neglect has been remedied, then we may look for an abatement of the practice now and again found in the ranks; practices unworthy of a noble line; unworthy of the sons of Æsculapius and Hippocrates."

SUGGESTIONS TO AUTHORS

We are moved, by some of the papers received at our annual meeting, to make a few suggestions to authors about preparing papers. Many papers were received upon which, appears no name or title, and the sheets are not fastened together. Many papers were received with penciled corrections and interlineations. We would like to suggest as a means of supplying better copy for our printers:

First: Papers presented for publication should be typewritten with plenty of space

between lines. (In preparing these papers for the printer, it is necessary to make signs, abbreviations, etc., between lines for the instruction of the typesetter.)

Second: The title of the paper with the name and address of the author should appear at the top of the first page. If the paper was read before a medical society, this should also be indicated on the first page.

Third: The American Medical Association publishes a little booklet entitled "Bibliographic Style." It will be sent to any address by the American Medical Association on the receipt of ten cents. The information contained in this little pamphlet would be a great aid to authors in preparing papers.

THE MUSKEGON MEETING

The Forty-Seventh Annual Meeting of the Michigan State Medical Society held in Muskegon, July 10 and 11, despite the hot weather, and the fact that the meeting was held on the lake shore and not in the central or easily accessible part of the state, was a success. Two hundred and forty-seven were registered and everyone expressed pleasure with the entertainment furnished and the program. The members of the Muskegon-Oceana County Medical Society did themselves proud in the matter of entertainment. Muskegon is a beautiful city and the guests were shown about in automobile and street cars, visiting many places of interest.

Tuesday evening, July 9, a stag supper was served at the Occidental Hotel, at which approximately seventy-five were in attendance. Wednesday evening a course banquet was served in the spacious dining-rooms at which the members and their ladies, about 250, were royally entertained. Following the banquet Dr. J. B. Griswold, of Grand Rapids, was called on for a few remarks, after which the Siegel-Macey entertainers of Chicago gave several musical numbers and readings.

The scientific sessions, all held in the Hackley School Building, were well attended. The Section on Gynecology vied with the Medical Section in attendance. The new Section on Ophthalmology and Oto-Laryngology was especially well attended, and everyone expressed himself as more than pleased with the program and enthusiasm manifested. The registration in the various sections was as follows: Section on Medicine, seventy-eight; Section on Surgery, forty-four; Section on Gynecology, twenty-two; Section on Ophthalmology and Oto-Laryngology, thirty-one; members registering in two or more sections or not indicating sections, seventy-one; total, 247. The registration follows by counties:

BARRY: J. W. Rigterink, Freeport.

BAY: H. N. Bradley, Bay City; Chas. H. Baker, Bay City; H. Beach Morse, Bay City.

BENZIE: Ezra L. Covey, Honor.

BERRIEN: N. A. Herring, Benton Harbor.

BRANCH: S. Schultz, Coldwater.

CALHOUN: J. J. Holes, Battle Creek; W. C. Marsh, Albion; James T. Case, Battle Creek; G. C. Hafford Albion; A. W. Alvord, Battle Creek; W. H. Haughey, Battle Creek; Wilfrid Haughey, Battle Creek; Benton N. Colver, Battle Creek.

CLINTON: Chas. B. Porter, Elsie; James E. Taylor, Ovid.

EATON: W. E. Newark, Charlotte; C. B. Wasson, Bellevue; A. R. Stealy, Charlotte.

EMMETT: F. C. Witter, Petoskey.

GENESSEE: H. E. Randall Flint; H. A. Stewart, Flint; C. B. Burr, Flint; F. B. Miner, Flint; W. G. Bird, Flint.

GRATIOT: E. M. Highfield, Riverdale.

HILLSDALE: Burt F. Green, Hillsdale; Walter H. Sawyer, Hillsdale.

HOUGHTON: Edward T. Abrams, Dollar Bay.

INGHAM: Samuel Osborn, Lansing; B. M. Davey, Lansing; Louis W. Toles, Lansing; R. L. Dixon, Lansing; E. F. Shaw, Williamston; M. L. Cushman, Lansing.

Ionia: J. F. Pinkham, Belding; Charles B. Gauss, Palo; H. B. Knapp, Ionia; H. M. Maynard, Ionia; V. H. Kitson, Ionia; Jno. J. McCann, Ionia.

Isabella-Clare: Donald H. McRae, Beal City.

Jackson: C. G. Parnall, Jackson; W. L. Finton, Jackson; A. E. Bulson, Jackson.

Kalamazoo: B. A. Shepard, Kalamazoo; John B. Jackson, Kalamazoo; Geo. D. Carnes, South Haven; John D. Stewart, Hartford; John H. Crosby, Plainwell; A. W. Crane, Kalamazoo; A. H. Rockwell, Kalamazoo; L. G. Rhodes, South Haven; R. E. Balch, Kalamazoo; J. H. Van Ness, Kalamazoo; Frederick Thomas Van Urk, Kalamazoo; A. L. Robinson, Allegan; C. E. Boys, Kalamazoo; G. W. Green, Dowagiac; O. H. Clark, Kalamazoo; Blanch N. Epler, Kalamazoo; A. M. Giddings, Augusta; Ed. J. Berstein, Kalamazoo; F. E. Grant, Kalamazoo.

Kent: Wm. Fuller, Grand Rapids; Eugene Boise, Grand Rapids; B. R. Corbus, Grand Rapids; Abel J. Baker, Grand Rapids; Reuben Maurits, Grand Rapids; Ernest W. Dales, Grand Rapids; Thomas M. Koon, Grand Rapids; J. B. Griswold, Grand Rapids; John Kremer, Grand Rapids; J. S. Edwards, Grand Rapids; J. C. Kenning, Grand Rapids; J. B. Whinery, Grand Rapids; F. H. Shorts, Kent City; C. H. Johnston, Grand Rapids; Peter J. DePree, Grand Rapids; J. D. Brook, Grandville; R. H. Spencer, Grand Rapids; G. H. Southwick, Grand Rapids; W. D. Lyman, Grand Rapids, J. J. Fabian, Grand Rapids; W. E. Rowe, Grand Rapids; John D. Hastie, Grand Rapids; A. M. Campbell, Grand Rapids; R. J. Hutchinson, Grand Rapids; Francis J. Lee, Grand Rapids; F. C. Warnshuis, Grand Rapids; N. H. Kassabian, Coopersville; F. A. Rutherford, Grand Rapids; J. O. Edie, Grand Rapids; A. G. Burwell, Byron Center; Henry J. Vanden Berg, Grand Rapids; A. G. Grabiel, Caledonia; C. C. Slemons, Grand Rapids; E. Bigham, Grand Rapids; O. C. McDonnell, Lowell; Perry Schurtz, Grand Rapids; John Brady, Grand Rapids; Ralph Apted, Grand Rapids; C. W. Brayman, Cedar Springs; Rowland Webb, Grand Rapids; T. C. Irwin, Grand Rapids; T. C. H. Abelman, Grand Rapids; James M. DeKraker, Grand Rapids; D. Emmett Welsh, Grand Rapids, H. J. Pyle, Grand Rapids.

Grand Traverse: Sara T. Chase, Traverse City.

Lapeer: W. J. Kay, Lapeer.

Lenawee: Isaac L. Spalding, Hudson; C. D. Mercer, Addison.

Manistee: H. D. Robinson, Manistee, E. S. Ellis, Manistee; R. F. Foster, Bear Lake.

Mason: T. J. Foster, Scottville.

Mecosta: J. McNeece, Morley; G. S. Griswold, Big Rapids; J. L. Burkart, Big Rapids; G. McAlister, Stanwood; W. T. Dodge, Big Rapids; J. B. Campbell, Stanwood.

Monroe: Chas. T. Southworth, Monroe; William F. Acker, Monroe.

Menominee: C. R. Elwood, Menominee.

Montcalm: J. O. Nelson, Howard City; D. K. Black, Greenville; A. B. Penton, Smyrna.

Muskegon-Oceana: A. J. Denike, Whitehead; F. B. Marshall, Muskegon; J. H. Nicholson, Hart; W. P. Gamber, Muskegon; W. L. Griffin, Shelby; Alfred Brocke, Muskegon; L. J. Sullivan, Muskegon; Paul A. Quick, Muskegon; L. W. Keyes, Whitehead; S. J. Drummond, Casnovia; J. T. Cramer, Muskegon; J. F. Denslow, Muskegon; L. N. Eames, Muskegon; G. J. Hartman, Muskegon; G. F. Lamb, Pentwater; V. A. Chapman, Muskegon; Chas. F. Smith, Whitehall; G. S. Williams, Muskegon; R. G. Cavanagh, Muskegon; J. D. Buskirk, Shelby; A. A. Smith, Muskegon; L. I. Powers, Muskegon; R. G. Olson, Muskegon; W. A. Campbell, Muskegon; Jacob Oosting, Muskegon; I. M. J. Hotvedt, Muskegon; F. M. Garber, Muskegon.

Newago: A. C. Tompsett, Hesperia; W. A. Kuhn, White Cloud; G. G. Burns, Fremont; Willis Geerlings, Reeman; N. DeHaas, Fremont; W. H. Barnum, Fremont.

Oakland: G. W. MacKinnon, Oxford.

O. M. C. O. R. O.: H. H. Merriman, Grayling.

Osceola-Lake: J. M. Stone, Baldwin.

Ottawa: W. S. Walkley, Grand Haven; Edward Hofma, Grand Haven; D. M. Vanden Berg, Grand Haven; C. P. Brown, Spring Lake; J. F. Peppler, Byron Center; Milan Coburn, Coopersville; J. W. Vanden Berg, Holland, R. D. No. 2.; D. G. Cook, Holland; W. D. Kleine, Grand Haven; H. J. Poppen, Holland; Henry Kremers, Holland; T. A. Boot, Holland.

Saginaw: D. B. Cornell, Saginaw; Wm. L. Dickinson, Saginaw.

Shiawassee: A. M. Hume, Owosso.

St. Clair: R. C. Fraser, Port Huron.

St. Joseph: W. A. Royer, Mendon; D. M. Kane, Sturgis.

Tri County: R. J. E. Oden, Cadillac; F. A. Boet, Manistee; O. L. Ricker, Cadillac.

TUSCOLA: A. L. Seeley, Mayville; W. C. Garvin, Millington; F. P. Bender, Caro.

WASHTENAW: R. B. Canfield, Ann Arbor; Reuben Peterson, Ann Arbor; G. Kamperman, Ann Arbor; D. Loree, Ann Arbor; J. C. Solis, Ann Arbor; V. C. Vaughan, Ann Arbor; C. D. Camp, Ann Arbor.

WAYNE: A. B. Wickham, Detroit; Joseph Sill, Detroit; H. W. Longyear, Detroit; G. H. Sherman, Detroit; A. P. Biddle, Detroit; G. Connor, Detroit; V. C. Vaughan, Jr., Detroit; Jas. Cleland, Jr., Detroit; G. L. Kiefer, Detroit; W. J. Wilson, Jr., Detroit; Arthur D. Holmes, Detroit; C. W. Hitchcock, Detroit; R. H. Stevens, Detroit; A. W. Blain, Detroit; J. E. King, Detroit; C. D. Brooks, Detroit; F. C. Kidner, Detroit; F. W. Robbins, Detroit; G. H. Palmerlee, Detroit; G. V. Brown, Detroit, C. E. Bryant, Detroit; F. B. Walker, Detroit; L. J. Hirschman, Detroit; Walter Manton, Detroit; A. W. Lescohier, Detroit; Mary G. Haskins, Detroit; W. E. Welz, Detroit; H. B. Garner, Detroit; B. D. Harison, Detroit; E. K. Cullen, Detroit; R. W. Gillman, Detroit; Eugene Smith, Detroit; Walter R. Parker, Detroit; B. R. Shurly, Detroit; R. W. Odell, Detroit; Anna Odell, Detroit; D. M. Campbell, Detroit; P. M. Hickey, Detroit; R. E. Mercer; Detroit; H. L. Simpson, Detroit.

GUESTS: Dr. John B. Roberts, Philadelphia; Dr. A. R. Craig, Chicago, Ill.; Dr. F. R. Green, Chicago, Ill.; Dr. Otto F. Freer, Chicago, Ill.; Dr. E. C. Dudley, Chicago, Ill.; Dr. Bertha Van Hoosen, Chicago, Ill.; Dr. C. W. Barrett, Chicago, Ill.; Dr. Charles Ryan, Des Moines, Ia.

NEWS

The JOURNAL has received a postal card from Dr. George R. Pray, of Jackson, written on the Steamship Roma, in mid-ocean. The doctor is bound for the Mediterranean.

Dr. C. D. Brooks, of Detroit, left July 18 for a three months' trip to Europe. He may be addressed care of Cook Agency or Adams Express Co., London.

Dr. R. C. Stone, of Battle Creek, sailed June 6 for London and the continent. He expects to spend several months in post-graduate work in Berlin and other medical centers.

The fourth annual meeting of the American Association of Clinical Research will be held in New York City, at the Academy of Medicine, on November 9, 1912. The sessions will be held from 9 a. m. to 1 p. m., from 3 p. m. to 6 p. m., and from 8 p. m. to 10 p. m. The evening session will be open to the public. Notable contributions on the Negri Bodies, on certain Fluids for Tubercle Bacilli in the Urine, on Adjustment and Function, on Psychoanalysis and Traumbedeutung, on a Pandemic of Malignant Encapsulated Throat Coccus, on The Single Remedy on Indicanuria and Glycosuria, on Disease Conditions Expressive of Correct Diagnosis, on Biochemic Problems, on The Two Most Far-Reaching Discoveries in Medicine, and others are to be given. Every member of the association is cordially invited to contribute a paper. The title should be sent at once to the permanent secretary, so that the program may be completed.

COMMUNICATIONS

"HANG TOGETHER"

Dr. Wilfrid Haughey, Battle Creek, Mich.

Dear Doctor: Your "Hang Together" article in May issue of the State JOURNAL is long past due. Such a step should have been taken at the time that the old line life insurance companies began to try to obtain scientific service for less than $5.00.

However, if we will hang together, we can certainly get our just fee. My brief experience is that if a physician demands the $5.00 he earns making a complete life insurance examination he will get it; if he accepts less than that fee from one company he is not honest with the company paying him the right fee.

I note you have not the Federal Life of Chicago, nor the Fidelity Mutual of Philadelphia on the list published.* For their defense, and to show another the way, I would like to say that each company has paid me $5.00 for examinations. The first named company sends their check for $3.00 to cover the examination; I send it back to them with my reasons for not accepting it; in a few days back it comes, but nestling beside it will be found the other $2.00; in currency. I have acted as appointed examiner for this company. With the Fidelity Mutual the case is a little different, as I have

---

* See advertising page xii.

not been their appointed man. Is that sufficient reason for them to pay me $5.00 when I wrote them I could not make the examination for less than that fee?

The Equitable, which you have on the list, *usually* pays the $5.00 fee; however, they write a monthly premium policy, working man's policy, so-called; of course the aggregate amount received in a year as premiums on this policy, is much more than the annual premium would be on the same policy, yet they ask the physician to make the same examination for $3.00 that he would make for $5.00 in case the applicant would pay annually, semi-annually or quarterly. They were graceful enough to pay me $1.00 more for a specimen of urine, bringing the fee for that examination up to $4.00.

While you are at it why do you not start a discussion about the $1.00 fee charged fraternal companies? It is along the same lines, and doubtless gave the old line companies the hunch about the lessened fee.

Very respectfully,

C. C. Probert.

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE

CERTIFICATES ISSUED THROUGH RECIPROCITY

		Reciprocity Qual. I	Reciprocity Qual. II	Date of License
Dunnington, Ruel N., Hartford, Mich.	Northwestern Univ. Med. School, Ill., 1909	Illinois		2-14-12
Bidwell, Edwin H., Gladstone, Mich.	Dartmouth Med. School, Hanover, N. H., 1884		Colorado	2-19-12
Bos, Cornelius N., Kalamazoo, Mich.	Northwestern Univ. Med. School, 1904	Iowa		3- 2-12
Talso, Jacob, Calumet, Mich.	Chicago Coll. of Med. & Surg., 1910	Illinois		3- 5-12
Wiley, Ralph E., Ann Arbor, Mich.	Dept. of Med. & Surg., Univ. of Mich., 1911			3- 1-12 Exam. Mich.
Hutchins, Clarence L. Detroit, Mich.	Med. Dept., Toledo University, O., 1908	Ohio.		3-22-12
Slominski, Ladislaus, Detroit, Mich.	Chicago Homeopathic Med. Coll., 1884		Colorado	3-26-12
Bolkcom, George W. Calumet, Mich.	Coll. of Med. & Surg., Univ. of Minn., 1894	Minnesota		3-29-12
Suggs, Frank, Detroit, Mich.	Med. Dept., Univ. of Arkansas, 1893		Arkansas	4- 5-12
Kulig, Albert H., Wakefield, Mich.	College of Phys. & Surgeons, Wis., 1906	Wisconsin		4-10-12
Coonley, Raymond B., Mt. Clemens, Mich.	New York Homeopathic Med. College, 1911	New York		4-29-12
Stevens, Nellie M., Detroit, Mich.	American Medical Missionary Coll., Mich., 1907	Illinois		5-17-12
McFarland, Omer G., Montgomery, Mich.	Indiana Med. Coll.-School of Med. Purdue Univ., 1906	Indiana		5-18-12
Poppen, Albertus B., Muskegon, Mich.	Rush Medical College, Ill., 1910	Illinois		5-18-12
Miller, Noble W., Howard City, Mich.	Coll. of P. & S., Univ. of Ill., 1906	Illinois		5-18-12
Vail, Derrick T., Holland, Mich.	Miami Medical College, O., 1890	Ohio		5-27-12
Modrack, John C., Kalamazoo, Mich.	Starling Medical College, O., 1882		Ohio	5-27-12
Todd, David D., Calumet, Mich.	Rush Medical College, Ill., 1910	Illinois		5-29-12
Goldsmith, Alex. A., Lake Harbor, Mich.	Northwestern Univ. Med. School, Ill., 1901	Illinois		5-29-12
Nelson, Alice Keefer, Mt. Clemens, Mich.	Homeo. College, Univ. of Michigan, 1890	Minnesota		6-11-12
Parisen, George B., Houghton, Mich.	Med. Dept., Western Reserve Univ., O., 1908	Ohio		6-19-12
Jackson, Harry V., Detroit, Mich.	Detroit College of Medicine, 1897		Mexico	6-14-12

PROCEEDINGS OF THE FORTY-SEVENTH ANNUAL MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY, HELD AT MUSKEGON, JULY 10-11, 1912

MINUTES OF THE MEETING OF MICHIGAN STATE MEDICAL SOCIETY

The Forty-Seventh Annual Meeting of the Michigan State Medical Society was called to order by the President, D. Emmett Welsh, at 10:30 a. m., Wednesday, July 10, 1912, in the Hackley School Building, Muskegon.

The meeting was opened by prayer by the Rev. Mr. Hadden of Muskegon.

An Address of Welcome was given on behalf of the city by Mayor Redike, and on behalf of the Muskegon-Oceana County Medical Society by Dr. George S. Williams.

The report from the House of Delegates was read by the Secretary.

Moved by Dr. Wilson, Detroit, that the report from the House of Delegates be accepted and adopted.

Supported and carried.

The President's address was read by President D. Emmett Welsh, Grand Rapids.

Moved by Dr. Southworth, Monroe, that the recommendations embodied in the President's address be referred to the Business Committee. Supported and carried.

An address, "Recent Advances in Plastic Surgery of the Bones," was read by Dr. John B. Roberts, Philadelphia.

Moved by Dr. Burr, Flint, that a vote of thanks be extended Dr. Roberts for his trouble in coming here to enlighten us on this subject and for his admirable address.

Supported and carried unanimously by rising vote.

Dr. Alexander R. Craig, Secretary of the A. M. A., and honorary member of this Society, addressed a few encouraging remarks to the Society.

Rev. Mr. Wisher, Grand Rapids, was allowed five minutes to address the meeting, in which he urged that the medical profession support the movement for women's suffrage.

Dr. Clark, Kalamazoo, offered the following resolution and moved its adoption:

Whereas, A wholesome public opinion effectively expressed is absolutely essential to the success of the fight against disease and crime; and

Whereas, Pure food, pure water, pure milk, proper sanitation and other health provisions can be secured only through the agencies of government, backed and reinforced by public opinion; and

Whereas, Public opinion can be made effective only through the ballot; and

Whereas, Women are deeply interested in and well informed as to the conditions in the home which affect the health, morals and general welfare of the family; now therefore, be it

Resolved, That we as members of the Michigan State Medical Society in convention assembled do hereby endorse the movement to enfranchise women.

The motion to adopt the above resolution was supported by several.

Moved by Dr. Warnshuis, Grand Rapids, that the resolution be laid on the table. Supported.

The motion to lay on the table carried.

Nominations for President for the ensuing year were now called for.

Dr. Hirschman, Detroit, placed in nomination the name of Dr. Guy L. Kiefer, Detroit.

Dr. Hitchcock, Detroit, placed in nomination the name of Dr. Walter H. Sawyer, Hillsdale.

As Dr. Sawyer was nominated last year, but withwdrew out of deference to Dr. Welsh of Grand Rapids, Dr. Hirschman withdrew the nomination of Dr. Kiefer and supported that of Dr. Sawyer.

Moved by Dr. Burr, Flint, that the nominations be closed. Supported and carried.

There being no further business to come before the meeting, adjournment was taken until 11:30 a. m., Thursday, July 11.

July 11, 1912

The second session of the Michigan State Medical Society was called to order by President Welsh at 11:30 a. m., Thursday, July 11,

1912, in the Hackley School Building, Muskegon, Mich.

The regular order of business was dispensed with and the report of the Nominating Committee called for.

Dr. Brook, Kent, chairman of the Nominating Committee, reported that there had been 178 ballots cast for President, all for Dr. Walter H. Sawyer of Hillsdale.

The President appointed Drs. Kiefer and Hitchcock to escort Dr. Sawyer to the chair.

After addressing the members in a few words of appreciation of the honor shown him, Dr. Sawyer stated that it was necessary for him to leave on an early train, and asked Dr. Welsh to continue to preside until the close of the meeting.

Moved by Dr. Burr, Flint, that a rising vote of thanks be extended to our retiring President, to the local Committee on Arrangements and to all those who have given of their time and labor for the success of the meeting.

Supported and carried unanimously.

The minutes of the previous session were read by the Secretary.

Moved by Dr. DuBois, Grand Rapids, that in stating the action taken on the resolution offered by Dr. Clark, that the minutes simply show that the motion to lay on the table was carried, without stating the vote on the same.

Supported and carried.

The minutes as corrected were declared approved.

The report from the House of Delegates was read by the Secretary.

Moved by Dr. Griswold, Grand Rapids, that the report be adopted. Supported and carried.

There being no further business to come before the meeting, adjournment was taken *sine die* Wilfrid Haughey, Secretary.

MINUTES OF MEETINGS OF THE COUNCIL

July 9, 1912

The first session of the Council of the Michigan State Medical Society was called to order by Vice-Chairman Bulson at 8 p. m., Tuesday, July 9, 1912, at Hotel Occidental, Muskegon.

Present: Councilors Bulson, Rockwell, Hume, Witter, Seeley, DuBois, Baker, Biddle, Southworth, Haughey, President Welsh, Secretary-Editor Wilfrid Haughey, and Dr. F. R. Green of the A. M. A.

Chairman Dodge arrived soon after the meeting was called to order and the chair was resigned to him.

The minutes of the January meeting were read by the Secretary and approved as read.

The Report of the Council to the House of Delegates was adopted paragraph by paragraph as submitted by Chairman Dodge.

Chairman Dodge recommended that Dr. John Avery, Greenville, be nominated for Honorary Membership.

Moved by Councilor DuBois, supported by Councilor Haughey, that Dr. John Avery be nominated for Resident Honorary Membership. Carried.

Councilor DuBois recommended that Dr. Geo. W. Crile of Cleveland, be nominated for Non-Resident Honorary Membership.

Councilor Bulson recommended that Dr. Geo. W. McCaskey of Fort Wayne, be nominated for Non-Resident Honorary Membership.

Moved by Councilor Biddle, supported by Councilor Bulson, that Drs. Crile and McCaskey be nominated for Non-Resident Honorary Membership. Carried.

Moved by Councilor Biddle that the Report of the Council to the House of Delegates be adopted as a whole.

Supported by Councilor Bulson and carried.

Chairman Dodge announced that Dr. Balch, who was elected Treasurer at the January meeting, declined to serve and that he had appointed Dr. W. A. Stone of Kalamazoo to act in his place; that Dr. Flinterman of Detroit, member of the Medico-Legal Committee died shortly after the January meeting and that the vacancy on that committee had been filled by the appointment of Dr. Angus McLean. Chair stated that these appointments stood only until this meeting and that it would now be necessary for the Council to take some action in the matter.

Moved by Councilor Southworth that the appointments of Dr. Stone as Treasurer and Dr. McLean as member of the Medico-Legal Committee be confirmed by this council.

Supported by Councilor Bulson and carried.

On motion of Councilor Seeley the Council adjourned to meet at 12 o'clock noon, Wednesday, July 10, 1912.

July 10, 1912

The second session of the Council was called to order by Chairman Dodge at 12 noon, Wednesday, July 10, in the Hackley School Building, Muskegon,

Present: Chairman Dodge. Councilors Bulson, Seeley, Baker, Rockwell, Witter, Kay, Southworth, Hume, Haughey and Secretary-Editor Wilfrid Haughey.

The order of reading of minutes of previous session was passed over.

Moved by Councilor Baker that in future the secretary of the state society be elected secretary of the Council.

Supported by Councilor Bulson. Carried.

Moved by Councilor Baker that the Council recommend or have introduced into the House of Delegates an amendment to the By-Laws of the state society doing away with the January meeting of the Council and providing for one annual meeting to be held at the time of the meeting of the state society.

Councilor Baker suggested that the reports of the secretary and treasurer be put in typewritten form and sent to each member at least one week before the meeting and that the auditing of the accounts of the society should be done by a professional auditor.

After discussion Councilor Baker withdrew his motion.

Moved by Councilor Biddle that the salary of the secretary-editor be fixed at $150 per month, dating from this meeting, and that all commissions on advertising be turned into the general fund of the society.

The motion was supported by Councilor Southworth.

After discussion on motion of Councilor Hume the motion was laid over for one day.

There being no further business adjournment was taken until noon, Thursday, July 11.

July 11, 1912

The third session of the Council of the Michigan State Medical Society was called to order by Chairman Dodge at 12 noon, Thursday, July 11, 1912, in the Hackley School Building, Muskegon, Mich.

Present: Chairman Dodge, Councilors Rockwell, DuBois, Hume, Kay, Seeley, Baker, Witter, Southworth, Haughey, State Secretary Wilfrid Haughey and Dr. A. R. Craig, Secretary of the A. M. A.

The minutes of the last two sessions were read and approved.

The state secretary reported that the society had received a bill of $11.74 for postage and stationery for the Committee on Public Health Education; that the House of Delegates recommended the payment of this bill and an appropriation of $20 for the coming year.

Moved by Councilor DuBois that the bill be allowed and the appropriation made. Supported and carried.

Dr. Craig, secretary of the A. M. A., addressed the Council outlining several plans the A. M. A. was contemplating for the benefit of state and county societies.

Moved by Councilor DuBois that the matter of increase of salary of the secretary-editor be continued on the table until the January meeting of the council. Supported and carried.

Moved by Councilor Seeley that the rules be suspended and the secretary instructed to cast the ballot of the council for Dr. Dodge as chairman. Supported and carried.

The secretary cast the ballot of the council for Dr. Dodge and he was declared elected chairman for the ensuing year.

Moved by Councilor Southworth that the rules be suspended and that Dr. Bulson be declared elected vice-chairman and that the secretary be instructed to cast the ballot of the council for Dr. Bulson. Supported and carried.

Secretary cast the ballot of the council for Dr. Bulson and he was declared elected vice-chairman for the ensuing year.

Moved by councilor Hume that the same amount as formerly, fifty dollars each, be appropriated as the salary of the secretary and stenographer of the council. Supported and carried.

Chair appointed the standing committees as follows:

Committee on Finance: B. H. McMullen, A. L. Seeley, C. H. Baker, C. T. Southworth.

Committee on Publication: A. P. Biddle, W. J. Kay, W. J. DuBois, A. M. Hume.

Committee on County Societies: A. E. Bulson, A. H. Rockwell, C. J. Ennis, F. C. Witter, A. S. Kimball.

There being no further business to come before the council the meeting adjourned.

W. H. Haughey,
Secretary of Council.

MINUTES OF MEETINGS OF HOUSE OF DELEGATES

July 10, 1912

The first session of the House of Delegates of the Mich. State Medical Society was called to order by President Welsh at 9 a. m., Wednesday, July 10, 1912, in the Hackley School Building, Muskegon, Mich.

The Committee on Credentials by its chairman, Dr. G. L. Kiefer, reported that twenty-one delegates were present and entitled to a seat.

On roll call twenty delegates reported present.

The minutes of the last meeting were approved as published without reading.

In the absence of Dr. Dodge, chairman of the Council, the report of the Council to the House of Delegates was read by Dr. Haughey, secretary of the Council.

Moved by Dr. Brook, Kent, that the report be accepted and referred to the Business Committee.

Supported and carried.

The report of the Committee on Legislation and Public Policy and on the work of the National Legislative Council, E. T. Abrams, Dollar Bay, chairman, was accepted as printed and referred to the Business Committee.

The report of the Committee on Memorial, F. C. Warnshuis, Grand Rapids, chairman, was accepted as printed and referred to the Business Committee.

The Committee on Fee Splitting had no report to make, its chairman, C. B. Stockwell, Port Huron, having been ill.

The report of the Committee on the Study and Prevention of Tuberculosis, C. H. Johnston, Grand Rapids, chairman, was accepted as printed and referred to the Business Committee.

The report of the Committee to Encourage the Systematic Examination of the Eyes and Ears of School Children throughout the state, Walter R. Parker, Detroit, chairman, was accepted as printed and referred to the Business Committee.

The Committee on Medical Education, David Inglis, Detroit, chairman, made no report.

The report of Committee on Venereal Prophylaxis, A. P. Biddle, Detroit, chairman, was accepted as printed and referred to the Business Committee.

The report of Committee on Public Health Education was read by F. A. Rutherford, Grand Rapids, chairman, and on motion of Dr. Brook, Kent, was accepted and referred to the Business Committee.

The Report of Delegates to the A. M. A. was accepted as printed and referred to the Business Committee.

Nominations for members of the Nominating Committee were made from the floor as follows: J. D. Brook, Kent; V. C. Vaughan, Jr., Wayne; W. D. Acker, Monroe: E. L. Covey, Benzie; C. G. Parnall, Jackson.

Moved by Dr. Warnshuis, Kent, that the secretary cast the ballot of the House of Delegates for the nominees just made. Supported and carried.

The secretary cast the ballot of the House of Delegates for the above nominees and they were declared elected members of the Nominating Committee.

President Welsh appointed the following Business Committee: R. H. Spencer, Kent; I. L. Spaulding, Lenawee; J. E. King, Wayne; W. L. Griffin, Muskegon-Oceana; C. R. Ellwood, Menominee.

Under the head of Miscellaneous Business the President read the following communication:

"Muskegon, Mich., July 9, 1912.

To the House of Delegates, M. S. M. S.

Gentlemen: Having completed a full decade of years as Councilor of District No. 3, I herewith hand you my resignation to take effect at the close of this annual meeting of the State Society at Muskegon.

Sincerely,
W. H. Haughey."

Moved by Dr. Warnshuis, Kent, that the resignation of Dr. Haughey be accepted; that the Nominating Committee be instructed to draw up suitable resolutions recognizing the services of Dr. Haughey to the State Society, and nominate his successor when it makes its report. Supported and carried.

Dr. Hitchcock, Wayne, offered the following resolutions:

"The Michigan State Medical Society congratulates Wayne County upon its active, energetic and courageous prosecuting attorney and expresses the hope that he will have the unanimous support of the press and cordial, moral and financial backing in his fine effort to rid that County of gambling devices and of unscrupulous quacks who prey upon a credulous public."

Dr. Hitchcock moved the adoption of the above resolution and that the secretary be instructed to telegraph a copy to Mr. Shephard, prosecuting attorney of Wayne Co., and to the Detroit press.

Supported and carried.

On motion the House adjourned to meet Thursday morning, July 11, 1912, at 8 a. m.

July 11, 1912

The second session of the House of Delegates of the Michigan State Medical Society was called to order by President Welsh at 9 a. m.

Thursday, July 11, 1912, in the Hackley School Building, Muskegon.

On roll call a quorum reported present.

The minutes of the previous session were read by the secretary and on motion were adopted as read.

The Committee on Nominations, Dr. J. D. Brook, Kent, chairman, made the following report:

REPORT OF NOMINATING COMMITTEE

Your committee on nominations reports as follows: For first vice-president, Dr. D. G. Cook, Holland; for second vice-president, Dr. J. F. Denslow, Muskegon; for third vice-president, Dr. Samuel Osborn, Lansing; for fourth vice-president, Dr. Frank Holsworth, Traverse City; for delegates to the A. M. A., L. J. Hirschman, Detroit, C. E. Boys, Kalamazoo, and the State Secretary. For alternate delegates to the A. M. A.: H. J. Kenne, Frankfort; H. E. Randall, Flint; A. W. Hewlett, Ann Arbor. For Councilor of Third District to fill the unexpired term of Dr. W. H. Haughey, Dr. A. S. Kimball, Battle Creek.

In compliance with the request made in a motion at our last meeting regarding the resignation of Dr. W. H. Haughey as member of the Council we wish to present the following resolution:

Whereas, The resignation of Dr. Haughey has come as a decided blow not only to the Third Councilor District, but to the entire State Society because of his long, efficient, untiring and faithful service to the Council; therefore be it

Resolved, That we express appreciation and commendation of the valuable services rendered and that we deeply regret his inability to longer serve as member of the Council. Be it further

Resolved, That these resolutions be incorporated in the minutes of the Society and that a copy be presented to Dr. Haughey.

Inasmuch as the invitation reached us first and that the majority of members seemed to be favorable to the Genesee County City, the committee unanimously recommends that the 1913 meeting be held at Flint. The committee acknowledges with thanks the kind invitations from our brother physicians and commercial organizations of Lansing and Saginaw.

Your committee would further recommend that all meetings after 1913 be held either in Detroit, Grand Rapids or some northern resort town. This recommendation is based upon the complaint of many members that hotel accommodations are inadequate in the smaller towns and therefore many refuse to come, thus materially diminishing the attendance and enthusiasm which should characterize every meeting.

In making this recommendation the committee were fully cognizant of the fact that this would place the burden and expense of entertainment on three or four local societies. In order that this expense might be somewhat more equally distributed the committee recommends that the expenses of entertainment be paid by the state society. We would also recommend that the Council fix a limit to the amount to be available for this purpose each year.

In considering the place of meeting your committee of necessity considered the time of holding the meeting. Probably the most desirable time would be during the latter part of May or early in June. This, however, would be impracticable since clinic week and graduation at the Detroit College of Medicine occupy the stage during the last two weeks of May while the meeting of the A. M. A. in early June with graduation at the University during the latter part of the month occupy practically the entire month of June. We, therefore, concluded that some time during the fall would be the most desirable time and therefore recommend that hereafter the meeting of the State Society be held during the last two weeks of September.

All of which is respectfully submitted.

J. D. Brook, Chairman,
V. C. Vaughan, Jr.,
W. F. Acker,
C. G. Parnall,
E. L. Covey.

Moved by Dr. Spaulding, Lenawee, that the nominations for first, second, third, fourth vice-presidents, delegates to the A. M. A. and alternate delegate to the A. M. A. be adopted.

Supported and carried.

Moved by Dr. Spencer, Kent, that the secretary be instructed to cast the ballot of the House of Delegates for the above nominees.

Supported and carried.

Secretary cast the ballot of the House of Delegates for the nominees for first, second, third, fourth vice-presidents and delegates and alternate delegates to the A. M. A. and they were declared elected.

Dr. Schultz, Branch, with the consent of the delegate from Calhoun County, nominated Dr. Geo. C. Hafford, Albion, to fill the unexpired term of councilor of District No. 3.

The House proceeded to ballot for councilor of District No. 3. The president appointed as tellers Drs. Vaughan and Wilson.

After the ballot was taken the tellers reported as follows: Whole number of votes cast, 26; for Dr. A. S. Kimball, 15; for Dr. Geo. C. Hafford, 11.

Dr. A. S. Kimball, Battle Creek, was declared elected councilor of the Third District to fill the unexpired term.

On motion the resolutions addressed to the retiring councilor, Dr. W. H. Haughey, were adopted.

Moved by Dr. Covey, Benzie, that the meeting in 1913 be held at Flint. Supported and carried.

Moved by Dr. Spaulding, Lenawee, that that portion of the report of the committee referring to the fixing of place to hold all future meetings of the society be laid on the table.

Supported and carried.

Moved by Dr. Wilson, Wayne, that that portion of the report recommending the time of holding the annual meetings of the society be adopted. Supported and carried.

The Business Committee, Dr. R. H. Spencer, Kent, chairman, reported as follows:

REPORT OF BUSINESS COMMITTEE

Your Business Committee begs leave to report as follows:

We recommend that the Committee on Memorial be extended the thanks of the society and that the committee be discharged.

We wish to thank the active member of the Committee on Public Health Education for a complete report and for the detailed recommendations which she has offered for our consideration. We recommend that her bill for last year's expenses to the amount of $11.74 be allowed and that $20 be appropriated to meet the expenses of the coming year.

We recommend that the committee to encourage the systematic examination of the eyes and ears of school children be commended on their good work and continued.

We recommend that the delegates to the A. M. A. be instructed to use their best efforts to promote the election of Dr. V. C. Vaughan as President of the A. M. A.

As Dr. Stockwell, chairman of the Committee on Fee Splitting, has been ill with typhoid fever we recommend that the sympathy of the society be extended to him and that the committee be continued.

With reference to the report of the Committee on Prevention of Tuberculosis we recommend that that portion of the report which deals with the impossibility of compelling a dangerous consumptive to go to an institution be referred to the Legislative Committee, and that that committee work in harmony with the State Board of Health for the promotion of the recommendation.

With reference to that portion of the report of the committee on Legislation which pertains to the practice of specialties we heartily commend the plan to take up the matter in the county societies and of appointing a meeting to consider the needs and requirements, and see to it that the state representative and senator are present. We believe that a man who aspires to the practice of a specialty should be required to have a higher standard of qualification and we recommend that a committee of three be appointed to study this subject, committee to be appointed by president-elect.

We recommend that the Legislative Committee use its best efforts to get a good definition for the "practice of the healing art" on the statutes.

Inasmuch as the Council on Pharmacy and Chemistry of the A. M. A. is the only unbiased means we have of determining the composition and value of specialties presented for our use, and inasmuch as they are equipped better than any individual member to make these investigations, we recommend that all members follow more closely the findings of that council.

We recommend that at the close of the year's work in December your society collect the annual dues for the ensuing year in advance; that the delinquents have until the first of April, or three months' grace, or be dropped from the state rolls at the expiration of that time without further notice, a list of the members in good standing being published in the May Journal.

We endorse the plan of having committee reports printed in pamphlet form and distributed for the use of the House of Delegates and we recommend that the chairmen of all standing and special committees be urgently requested to have their complete reports in the

office of the secretary at least six weeks before the meeting of the state society.

We recommend that one copy of the society files be placed in the state vaults at Lansing with the state board of health secretary.

We recommend that the same enactments be asked for in regard to the pure food laws as are enacted in Indiana.

We commend the council on its action regarding the passage of the Owen Bill, which needs our special work as this is the year of election.

We recommend for honorary membership those nominated by the council: resident Dr. John Avery, Greenville. Non-resident, Dr. G. W. Crile, Cleveland, Dr. G. W. McCaskey, Ft. Wayne, Ind.

We extend our most hearty thanks to the members of Muskegon and Oceana counties for their good work and fine entertainment provided us at this meeting.

We wish to commend the able address of the retiring president to the earnest and thoughtful consideration of the House of Delegates.

We further recommend that the state secretary act as the fourth delegate to the A. M. A.

All of which is respectfully submitted.

R. H. Spencer,
I. L. Spaulding,
J. E. King,
W. L. Griffin,
C. R. Ellwood.

Moved by Dr. Covey, Benzie, that the report of the committee be adopted as read.

Supported and carried.

Moved by Dr. Dodge, chairman of the Council, that the secretary be instructed to send notices to each senator and representative of Michigan of the action of the society endorsing the Owen Bill.

Supported by several and carried.

Moved by Dr. Covey, Benzie, that in a separate communication we call the attention of all senators and representatives of Michigan to the necesssity of a most thorough and impartial enforcement of the National Pure Food and Drugs Act.

Supported by several and carried.

Moved by Dr. Dodge that the instructions given by the House of Delegates to the Legislative Committee to introduce a bill before the Legislature providing for support of the State Board of Registration in Medicine be abrogated.

Supported and carried.

Adjournment was taken *sine die.*

Wilfrid Haughey, Secretary.

REPORT OF THE COUNCIL

MEDICAL PRACTICE LAWS

Last year the State Society instructed the Legislative Committee to apply to the legislature for the passage of a law securing financial support to the Michigan State Board of Registration in Medicine, with the instructions that the bill contain no other feature; also that a bill be proposed defining the practice of medicine and to contain no other feature.

It is by no means clear to many members of this Society that the income of the Board of Medical Examiners is not sufficient from the fees received from applicants for examination to pay its legitimate expenses, if its activities are confined within proper limits.

We have seen the standards of Medical Education and the requirements of admission to the legitimate medical profession raised to heights undreamed of a decade ago. Many recent acquisitions to our ranks are so fully equipped with technical knowledge, so highly impressed with their theoretical medical training, as to feel a half-tolerant contempt for their older confrères, and absolute contempt for the slow process of gaining practical experience in the humdrum atmosphere of the country hamlet; consequently our cities are filled with practitioners, and the people in many rural communities are lacking facilities to secure competent medical attendance in emergency.

This condition will become more acute as the present country practitioners become old and discontinue practice. On the other hand, the back door to the practice of medicine has been wide open all of the time, and hordes of "pathists" have swarmed into the state, each representing a peculiar "fad" in the healing art. None of them has been educated in physics, physiology, chemistry, pathology, bacteriology or in any of the sciences, knowledge of which is necessary to permit one to properly diagnose a diseased condition, while their one means of treatment is recognizable as an old-time remedy for certain conditions, used by the profession for ages; no one incompetent to diagnose or even understand diseased conditions can safely be trusted to apply mechanical measures indiscriminately.

The writer has seen one case of incipient Pott's disease of the spine converted into a dislocation of the diseased vertebra, by one of these mechanical treatments, producing immediate and incurable paralysis of the lower extremities.

It is a question if our efforts to regulate the practice of medicine should not be more closely confined to securing enactments that all practitioners should be required to pass examinations before the State Board of Medical Examiners on anatomy, physiology, chemistry, bacteriology, hygiene, physics, pathology and diagnosis. People thoroughly educated in these branches are not likely to go wrong in therapeutics. An appeal along this line to laymen should gain the approval of their common sense and should secure for us the adoption of a common-sense definition of the practice of medicine as a legal enactment. Appeals to the legislature for appropriations of money are likely to be fruitless and to interfere with the passage of much more important legislation.

It is not generally known by our members that under our present law the Board of Registration has no authority to enter prosecutions or to expend money securing evidence of violation of the law.

A few months ago the profession of Michigan was startled by the question in the *Journal of the American Medical Association.* "What's the matter with Michigan?" It appeared that Michigan had become the abiding place of numerous medical fakers and crooks. The efficient prosecuting attorney of Wayne County commenced at once a brisk "housecleaning" in Detroit and his efforts have been supported by some of the Detroit press. We recommend that your body adopt resolutions commending prose--cutor Shephard's attitude in this matter.

THE COUNCIL ON PHARMACY AND CHEMISTRY

Michigan took an active part in the organization of the Council on Pharmacy and Chemistry, or rather in the movement which led to the organization of this council. During the present year The Journal has adopted the standard set by this council, and in doing so has thrown out of its advertisement pages the specialties not approved by the council. It has seemed necessary to the organized profession to maintain a bureau with the facilities for examining and testing specialties, and it would only be proper for the profession to support this bureau by using only such specialties as they approve.

Especially should this be true in this organization, not only because of our record in working toward such a clearing-house, but as a matter of support to our Journal, which must depend to an extent on its advertising.

MEMBERSHIP

The membership of the Society on May 1 was the greatest in its history—2,279—but, unfortunately, a large percentage were delinquents for dues of the year 1912, and 259 had to be removed from the list of members in good standing. This percentage is altogether too large, and is larger than that in many other states.

Three or four years ago the American Medical Association appointed a committee on uniform membership, which committee, in its report at Atlantic City, recommended that each society make up a new membership list early in January of each year, and such lists should be the mailing list and contain only the names of those members whose dues for the year have been paid. Minnesota is doing this now, and reports that only a very few have to be dropped each year. These few are not notified; they are automatically dropped. They have found, and we have found, that the more strict we are in the handling of the membership list, the fewer names appear on the delinquent list. We do not have one-third the number of delinquents that we had three years ago, and yet we have three times as many as we should have in comparison with some of our sister states.

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

At the annual meeting of the American Medical Association in June occurred the reapportionment of delegates for the next three years. The apportionment is now one for each 700 or fraction thereof. Michigan is entitled to four, being one extra delegate. New York, Ohio, Kentucky, Illinois, Missouri, Wisconsin and Iowa have been in the habit of sending their secretary as a delegate, on the theory that the secretary is more familiar with the work of the society than some other member might be. If Michigan should decide to follow the lead, now would be a good time without lessening the delegate positions open to members.

SOCIETY FILES

During the term of the present secretary a continuous effort has been made to obtain a complete set of the transactions and files of the Society. The Secretary received from his predecessor complete files back to the year 1891. He has succeeded in securing gifts from certain members, Alvord of Battle Creek, Stevens

of Detroit, Dickinson of Saginaw and Ranney of Lansing (not now a member, though for twenty years secretary and for one year president), so that the files are now complete, with the exception of one volume of the transactions of the year 1872. With the exception of four or five numbers, we have duplicate files from the organization of our Society in 1866 to the present time.

We have also received from Dr. Ranney the gift of the transactions of the Michigan Medical Society for 1859. (This was the second State Society; the present society is the third organization.)

We suggest that the House of Delegates designate some safe keeping place for one set of these files, the other set to be retained in the office of the Secretary. In case of fire in the office of the Secretary at present the society would suffer an almost irreparable loss, for it has taken nearly three years of effort to secure these early parts of the transactions.

PURE FOOD LAWS

If the national government possessed and enforced a pure food law adequately protecting the people against adulteration of foodstuffs sold in interstate commerce, it would be to the interests of all concerned for the state to adopt laws embracing the same provisions for application in interstate commerce. Unfortunately, the administration of the federal laws, under the ruling of the discredited Remsen Board, is such as to remove all sense of security from the minds of the user of canned goods, and we believe it to be the duty of this Society to point out to the legislature the method in which protection should be afforded the people along this line.

The State of Indiana has blazed the trail, and it but remains for us to follow along their now well-marked route. Williams Brothers of Detroit and Curtice Brothers of Rochester, N. Y., attacked the pure-food law of Indiana, which prohibits the sale of foodstuff preserved with benzoate of soda. In the investigation of the congressional committee to determine the responsibility of the Agricultural Department in giving aid to these firms in their attack on the Indiana laws, Dr. Barnard, chemist of the State Board of Health of Indiana, testified in part as follows (*Jour. Am. Med. Assn.*, Sept. 16, 1911, p. 993):

"Section 2, Provision 7. Indiana law, provides 'if it (a food) contains any added antiseptic or preservative substances except common table salt, salt petre, cane sugar, vinegar, spices or in smoked food the natural products of the smoking process, or other harmless preservatives whose use is authorized by the State Board of Health, it shall be deemed adulterated.' "

Dr. Barnard stated that he collected a great many samples of goods manufactured by Williams Brothers and Curtice Brothers, and that they were always labeled to indicate in certain classes of goods the existence of benzoate of soda to the extent of 1/10 or 1/12 of 1 per cent.

Q. "Did you analyze any of these seizures?"
A. "Yes; many samples."
Q. "Upon analysis in the state laboratory, what proportion of benzoate of soda was found in the samples?"
A. "Various quantities, but in almost every case from two to three times the amount declared upon the label."

Reviewing the testimony submitted at the trial in question, the fact was clearly established that the Department of Agriculture, Washington, D. C., was inimical to the pure-food laws, and clearly points out to the supporters of the preservation of the health of the people of this and every other state the plan to be pursued. Radical measures must be adopted, and the federal heads of departments antagonizing the wishes of the people must be forced to see the evil of their ways. The natural conservors of public health should be the medical profession; we must take the initiative and use every effort to induce our legislature to enact stringent laws protecting the people from the ravages of adulterated food. The companies implicated in the Indiana case have free access to the markets of Michigan, and are permitted to vend their proved injurious products without molestation.

We recommend that our Legislative Committee be instructed to use every available means to insure an amendment to our present pure-food law in this state, positively prohibiting the sale of foodstuffs preserved with benzoate of soda or other injurious substances.

THE OWEN BILL

The medical profession is so thoroughly committed in the effort to secure legislation along the lines of the Owen Bill that we cannot give up defeated and retain our self-respect. The sources of the opposition to this measure may be divided into two groups: first, the League for Medical Freedom, which is composed of frauds, patent-medicine makers, nostrum mak-

ers, osteopaths, etc.; second, Christian Scientists. A national health bureau, consolidating the sanitary work that the government now does, cooperating with the states and cities, and carrying on constant educational propaganda with federal prestige, would undoubtedly be worth while. The position recently taken by the American Institute of Homeopathy on this subject is commendable in the extreme. We can now face the enemy with greater strength, because the medical profession (legitimate) is now a united body, and success must reward our efforts to defeat the opponents of the Owen Bill.

We recommend that this Society adopt resolutions commending the Owen Bill.

HONORARY MEMBERSHIP

We recommend the following to honorary membership in this Society:

Resident honorary membership: Dr. John Avery, Greenville.

Non-resident honorary membership: Dr. George W. Crile, Cleveland; Dr. George W. McCaskey, Fort Wayne, Ind.

NECROLOGY

Since our last meeting three of our great workers in the field of medicine and surgery have been called to their eternal reward by the Great Harvester. Dr. H. O. Walker of Detroit, one of the foremost surgeons in the country, President of the State Medical Society in 1894. Dr. Johan Flinterman, Detroit, a highly educated gentleman of the old school; at the time of his death a member of the Medicolegal Committee and an honorary member of this Society. Dr. Herman Kiefer, Detroit, honorary member of this Society and a great advocate of all that makes for the best interests of the public. "May they rest in peace and their memory be revered" we are sure will express the sentiments of this Society.

W. T. Dodge, Chairman.

REPORT OF COMMITTEE ON PUBLIC HEALTH EDUCATION

The Public Health Education Committee of the Michigan State Medical Society, after carefully considering the various methods of obtaining permanent and definite results in the state, feel that if each County Society unites in carrying out, as far as possible, the suggestions made below, typhoid fever can be practically eradicated from the state and a cleaner milk product be obtained. The committee feels that much more can be accomplished by concentration on a few subjects and by working through such permanent organizations as exist in the various communities, such as Women's Clubs, Men's Church Clubs, County Granges, Y. W. C. A., and Y. M. C. A. The State Committee would suggest:

1. That the clubs and other organizations before which talks are given, appoint health committees to carry on more permanent educational work in their various organizations.

2. That the concentrated effort of the committee from each County Society be directed toward securing a clean milk supply and the eradication of typhoid fever.

3. That in the consideration of typhoid fever especial attention be paid to the study of surface wells and sewerage in towns, villages and country districts (the city water supply being taken care of by the Board of Health) and the manner of conveying infection with the homes.

4. That you will notify teachers, parents, women's clubs, County Granges and other organizations that your society members will respond to requests for lectures on the following subjects:

First. Child Hygiene.

Second. Pure Food, Including Milk Supply.

Third. Relation of Flies, Mosquitoes and Other Insects to Public Health.

Fourth. Prevention of Contagious and Infectious Diseases.

Fifth. Social Hygiene.

We hope that this may be a permanent work of Medical Societies for the good of the people and the better appreciation of the value to the community of the scientific physician.

Literature recommended to club organizations for personal study can be procured from the State Board of Health, Agricultural College, U. S. Dept. of Agriculture, General Federation of Women's Clubs; State Federation of Women's Clubs; Public Libraries, and special works on hygiene—Traveling Library, Lansing.

(a) Public Health Bulletins from State Board of Health.

(b) Special literature can be obtained by writing Dr. Cora A. Moon, Shepard Bldg., Grand Rapids, Secretary of this Committee.

(c) Bulletins from U. S. Department of Agriculture.

5. That the subjects of a National Department of Public Health and of Vivisection be introduced into each talk if possible.

6. That there be given one or two lectures a year by out-of-town speakers to large audiences, and a series of lectures by local physicians. We approve the plan of lecturers from outside the state to be arranged for by the A. M. A. The names of speakers and the subjects which have proven most interesting and valuable can be obtained from the State Committee.

In reviewing the by-laws of the Michigan State Medical Society, adopted at its reorganization in 1902, we find the scope of the work outlined in Article II as the "Enlightenment and direction of public opinion in regard to the great problems of state medicine and the usefulness to the public in the prevention and cure of diseases and in prolonging and adding comfort to life."

Let us pride ourselves, then, in being the forerunner of the thought which prepared the way for the A. M. A. at their meeting in St. Louis, Mo., in 1910, to appoint a distinct Committee of Hygiene-Public Health. This action was taken in response to the effort being made by women on hospital boards, in church work and clubs, etc., to systematize attainable knowledge for the promotion of health and beauty in *all* homes. An ancient authority advises women to ask their husbands at home; the present logic is, "Find out."

For more than fifty years women's clubs with special platforms for hygiene, health and beauty, have been organized in every hamlet where two or more could meet together. As the smaller clubs increased numerically and in mental attainments, larger associations were formed, as the General Federation of Women's Clubs, the State Federations and City Federations, so we have arrangement for concentrated effort wherever the Stars and Stripes proclaim Life, Liberty and Pursuit of Happiness to all citizens. Let us realize the influence of these millions of women (about 8,000,000, I believe), who are so earnestly asking "Show me" the secret of beautiful, healthy children, fewer people in the jails, hospitals and asylums, and 35 per cent. fewer children in the cemeteries, and therefore more in the public schools in proportion to the number born. It becomes, then, self-evident that the physicians with love of humanity "passing the love of women," with the clearer vision and high ideals of the profession, show the open door by which the people could be taught the principles of right living. This, then, is the present public health agitation, the ground well prepared and the physician's and layman's opportunity to show how preventable diseases may be understood and prevented.

The work of the A. M. A. has been manifold and practical in aiding in distribution of government publications and showing readiness to address audiences as desired.

The greatest work of the United States government for the year is in providing a Children's Bureau, with a trained chief, Miss Julia Lathrop, whose business it will be to show the way of caring for our 41,000,000 boys and girls in their teens and younger. This institution is a clearing-house for information needed by state and local law-makers, as well as child welfare crusades. Experts will be sent into various communities to discover conditions, and through this new federal office of juvenile affairs, we will grow better and better acquainted with them henceforth, until we learn the problems of the most needy and most lowly.

President Taft's signature brought this bureau into being April 9, 1912.

The General Federation of Women has also called attention of their members to available literature and speakers who have the healthful message. The General Federation is publishing special bulletins on sanitation, contagious diseases, pure milk and with numerous sanitary suggestions. They have also during the last ten years given through their members $5,000,000 toward the prevention and cure of tuberculosis.

Our own State Federated Clubs numbered at last meeting 800,000, federated, also, with 226 local clubs. The women members of the Granges are doing also a great work and are seeking most earnestly to send only pure food to market and are thoroughly in touch with all other organizations. Hence, the curriculum for each grange and club is as carefully planned as our university course, always with one or more days on Public Health.

This allusion to women's societies is but to point the open door and the opportunity for reaching the home of all the people, showing them the way for better living as the physician of each community shall keep watch and ward. In every women's club the Owen bill was read, studied and influence used for its adoption by congress.

Were men voters equally active?

During the three years since the A. M. A. appointed the Committee on Public Health,

there have been made most excellent reports direct to the A. M. A. mostly from the larger cities. Our state is but one of four which ask to hear direct from every county. It is evident if we work for the people we must needs work with these people, using every avenue opened to the message of good health if we would bring the millenium near. The larger cities have sent reports showing what has been done and directed the way for much more to be accomplished.

Of our own state record we are justly proud and yet we have the lesson so oft repeated, "A little leaven will leaven the mass."

Not many days ago the State Board of Health was invited to investigate the cause of typhoid fever in one of our counties. The disease was so thoroughly entrenched that the prognosis that 10 per cent. of deaths would occur in those infected was proven within the week.—One hundred cases, eight deaths with more to follow. Selah.

Was it last winter, as every winter that we hear of small-pox, and now in summer too, not diagnosed until numbers have been exposed, then deaths and loss of property which might have been prevented. All this sorrow and pain might be prevented by a few dollars' expenditure; a law to compel vaccination or education of the masses to their own safety. Again, to "clean milk and healthy babies" is the slogan cry which has been emphasized in another way by the epidemic of sore throats in adults in Chicago, Baltimore, Los Angeles, Boston and Ann Arbor, which is supposed to result either from the milk or the animal which produces the milk.

The epidemic of scarlet fever in Montcalm, N. J., some years ago resulted in such thorough research that the hope is not chimerical that clean milk may yet prove attainable. The Health Officer, C. H. Wells, of New Jersey writes that the bacterial count, made public every six months has been the greatest factor in excluding poor supplies. Michigan began the milk agitation years ago but this winter Grand Rapids with full consent of milk dealers consented to a 200,000 bacterial count per cubic centimeter with monthly publicity. This law was made obligatory Jan. 19, 1912, and since then we have had milk in the market with but 56,000 bacteria per cubic centimeter. This result was accomplished by the Women's Clubs aided and abetted by the physicians. While urging in every town and city the watchfulness for pure milk for child as well as adult, I would like also a word for the nursing mother. Let all means be employed to prevent weaning a child before the end of its first year. It is pathetic to see strong healthy women weaning their infants at earliest moment allowed by physician or without permission, from one month to three, and our foreign population follow the example of the wealthy until our infant mortality is reaching the magnitude of the crowded cities of Europe. The means of controlling infant mortality has so ably been presented by Dr. Abraham Jacobi in his recent address* before the A. M. A. that I advise its perusal by every physician and nurse and trust the plan as suggested will be carried out to send a copy to each M. D. of the A. M. A.

You all know of Dr. William Evans' work in Chicago. He emphasizes the fact that physicians are in better position than any other citizen to take the lead in this movement. He traces the evolution of the thought in our responsibility and duty toward the unfortunate, to the evidence of race development which has been most rapid in the last fifty years and in that period has also increased community interest. Are we physicians not in a measure responsible for the taxes levied for institutions, hospitals, jails, asylums, criminals, feeble minded and derelicts of all classes which might be prevented if children were properly born and educated? If all I think on this subject could be brought to your minds and acted upon, we would have nurses and physicians to direct every school in the land, as well as the open air schools and schools for exceptional children.

Even the work of education can be no stronger than the weakest link in the chain.

The community that is not using every avenue for education of its citizens is blocking the way. Our state board of health is doing excellent service in investigating the water supply of summer resorts as well as the sewage and garbage disposal. All this by a competent engineer and bacterial examinations of water made at State Board of Health Laboratory.

A hotel inspector has also been put into the field. He represents the Dairy, Food and Health Departments. Miss Adelaide McKinley has been working earnestly for the last six months in public institutions investigating the causes of weak mindedness and crime and is to continue six months more. Why not equip our Health Laboratory to make the Wassermann

*Reviewed in Journal M. S. M. S., July, p. 447.

test and so begin at the source of much feeblemindedness, crime, tuberculosis and other diseases. Fight all disease in the open and protect the innocent. It was a fine proclamation of Gov. Osborn, May 15, Public Health Day. Had cities and villages emphasized the order, typhoid fever might not have had so early a start.

In order to prevent misunderstanding in regard to the A. M. A. Public Health Education Committee and the State Committee Dr. Jeanne Solis, chairman of the A. M. A. for Michigan was made member of your committee that she might confer with those who had been in this work for the last two years and explain that Michigan with three other states decided on personal state reports, for the whole work is really one in object.

In November, 1911, notices were sent to 59 county societies by your committee suggesting work along lines outlined. Jan. 12, 1912, we sent a more definite notice requesting concentration on typhoid fever and pure milk which was also published in our State JOURNAL with request for reports May 1, that we might be prepared for a symposium on the subject of health at our state meeting. No society having reported, a return postal was sent June 10. Six counties report work, nineteen nothing doing, leaving thirty-six unaccounted for. In Dr. Jeanne Solis' correspondence twenty-four committees were appointed of which eight reported. Perhaps in her report we may find some of our delinquents. She reports 185 lectures given to audiences of 10,000, with tuberculosis work active and contagious diseases en rampant.

Public health work should be done through local health boards, medical societies, women's clubs, men's clubs, library clubs, churches, classes on applied Christianity, Y. W. C. A. and Y. M. C. A., grange societies, venereal prophylaxis by every physician, university lecturers, agricultural college lecturers and literature, Western Normal College, Kalamazoo Normal College, and every place where a word can be spoken in season and out of season.

Respectfully submitted,

FRANCES A. RUTHERFORD, Chairman,
CORA MOON,
JEANNE SOLIS,
BLANCH EPLER,
ANNA O'DELL.

REPORT OF DELEGATES TO MEETING OF AMERICAN MEDICAL ASSOCIATION

Your delegates fully appreciate that this body does not care to hear in detail what was done at the Atlantic City meeting. In *The Journal of the A. M. A.*, each may read of those matters in which he takes special interest, but there are a few points that should be brought to your attention.

In the first place you understand that every third year there is a reapportionment of members in the House of Delegates.

The apportionment this year has been made on the basis of one delegate for every seven hundred or fraction thereof in the component State Societies. On this basis we are proud to state that Michigan is entitled to four delegates, one of the few states having made a gain.

The matter of insignia has, we have noticed, not been fully understood. A number of our members are still wearing on their coats a button with the red cross as its center and the letters, A. M. A., on the outer ring. Two years ago out of respect for the Red Cross Society this button with the red cross center was given up and in its place a new design was suggested by a special committee having the rod of Æsculapius as its central figure. This design was adopted by the House of Delegates.

At Los Angeles a good many not wishing to give up the old button criticised the new design and the central office in Chicago continued to sell the old button of which they had a large number in stock. To make a long story short the whole matter of buttons thrashed over at Atlantic City and the Board of Trustees was ordered to have a supply of the new buttons made, these only are to be sold as the insignia of the American Medical Association.

A matter which has worried many of the delegates and other critics of the A. M. A. is the seeming secrecy with which business is transacted through the central office. The financial statement has been satisfactory and the books have been audited but some want to know just what salaries are paid and to whom, the cost of labor, and in short the details of the association business. The Board of Trustees have always been reticent about making statements in detail for reasons that appear to them good business.

After the financial report had been presented and assigned to the proper committee a call was made for reference to this committee of a complete report as to the details of business

management. This was done in a supplementary report with the understanding that its details should not be published. The house we are quite sure felt satisfied that the action of the Board of Trustees was quite proper.

When the question of place of next meeting came up invitations were received from Louisville, Ky., and Minneapolis, Minn. Minneapolis is to be the place of the next meeting.

There was no opposition to the reelection of Dr. Craig as secretary and at the final show down, Dr. John A. Witherspoon, of Nashville, Tenn., was unanimously chosen president-elect although Dr. Wishard, of Indianapolis, had many friends on the floor.

The three retiring members of the Board of Trustees were reelected, namely, Harris of Chicago; Daugherty of Indiana, and Councilman of Boston.

Your representatives in the House of Delegates were impressed with the fact that Michigan has not been represented in the executive chair or on the Board of Trustees for a good many years, and if the Michigan State Medical Society shall at this meeting see fit to instruct its delegates to work for the election to the Presidency of the A. M. A. of Dr. Victor V. Vaughan, Dean of the Medical Department of the University of Michigan, either at the 1913 or 1914 meeting, they would be delighted to carry out your instructions.

Dr. Vaughan represents medicine, high medical education, and the highest type of professional manhood, and we believe that he commands not only the respect but the votes of the House of Delegates.

This report should not close without calling your attention to the New Principles of Ethics as adopted by the House of Delegates, which should be read by every member of the A. M. A. We wish to call special attention to a portion of Article VI, Section 3, which reads, "It is detrimental to the public good and degrading to the profession, and therefore unprofessional, to give or to receive a commission. It is also unprofessional to divide a fee for medical advice or surgical treatment unless the patient or his next friend is fully informed as to the terms of the transaction."

"The patient should be made to realize that a proper fee should be paid the family physician for the service he renders in determining the surgical or medical treatment suited to the condition, and in advising concerning those best qualified to render any special service that may be required by the patient."

Your delegates believe that through the proper committee this matter should be brought before this State Society and finally before its component county societies for action.

Richard R. Smith, Delegate,
A. D. Holmes, Alternate,
Frederick W. Robbins, Delegate.

REPORT OF COMMITTEE TO ENCOURAGE THE SYSTEMATIC EXAMINATION OF THE EYES AND EARS OF SCHOOL CHILDREN THROUGHOUT THE STATE

To the Members of House of Delegates:

Dear Sirs: Your Committee appointed to Encourage the Systematic Examination of Eyes and Ears of School Children Throughout the State, has the honor to make the following report:

During the past year, the Committee has been extended by the addition of county members, until now, all but 11 counties are represented. Branch, Dickinson, Iron, Genesee, Baraga, Keweenaw, Livingstone, Marquette, Alger, Oakland, Presque Isle failing to respond to the invitation to join the Committee.

A circular letter was sent to each county member and the following information elicited. In four of the counties represented on the Committee no effort has been made to introduce the system of examination, and in a few of the others, the efforts made have not been rewarded with any marked success. On the whole, however, excellent results have been obtained, and we are able to report a very decided progress in the work.

In answer to the question in the circular letter, as to the causes of failures in the work, the following answers were given:

Lack of experience on part of teachers.

Control of schools by quacks and irregulars.

Politics.

Lack of cooperation.

Lack of interest on the part of the medical profession.

Lack of compensation.

Dominance of one man in school affairs.

Distrust on the part of parents.

The difficulties met with in this state are the same as elsewhere, and must be overcome by the same methods. The medical profession, school authorities and teachers must all be edu-

cated to the importance of the work before it can be carried on without friction, and this can be accomplished only by conscientious and tactful efforts on the part of each committeeman.

Four states in the Union, namely, Vermont, Connecticut, Massachusetts and Rhode Island have state laws requiring the examination of eyes and ears of school children. With an effort to determine the efficiency of this plan, your Committee wrote to the Secretary of the State Board of Education in each of these states, but in no instance was the information received accurate enough to warrant definite conclusions as to the efficiency of the law. Your Committee therefore would recommend that the present methods be continued until some other plan is proven to be more efficient.

Respectfully submitted.

Walter R. Parker, Chairman,
Charles H. Baker,
Wilfrid Haughey.

REPORT OF COMMITTEE ON MEMORIAL

The committee appointed by the state society at its last annual meeting for the purchasing and the presenting of a suitable memorial to the Wayne County Medical Society herewith has the honor of submitting its report.

After due conference with the trustees of the Wayne Society, the $100 appropriated was employed to purchase a "Grandfather's Clock." by reason of business connections a $175 clock was secured for the above sum.

Feb. 5. 1912, the Wayne County Society arranged to hold a Goodfellowship Meeting, and this occasion was selected for the formal presentation of the clock.

Your chairman made the following presentation address:

"Mr. President and Members of the Wayne County Medical Society. I appear before you on this occasion as the representative of the State Medical Society. A pleasant duty is mine to perform and my only regret is that one more gifted and capable of better honoring this occasion, than myself, were not selected.

Mr. President, you and the members of the Wayne County Medical Society hold and justly maintain a unique position in the hearts and thoughts of the composite membership of the State Society. Representing that membership this evening, I bring you their greetings and kind wishes. Many of them, individually, have experienced your recognized hospitality and have sat at your firesides. Others have been the recipients of your able counsel and assistance in their professional careers. Again others have sat at your feet and listened, with profit, to your teachings.

At its annual meeting, last fall, the members collectively once more enjoyed your hospitality and thoughtfulness. That meeting was attendant with so large an amount of intellectual and social profit, due solely to your efforts for our comfort, that we were loth to depart homeward.

We are deeply indebted to you, Mr. President and members of the Detroit profession, and to show our appreciation and to record it more substantially, I am the recipient of the honor and the authority, of presenting to you in the name of the President, Officers, Council and Members of the Michigan State Medical Society, this memorial of our lasting gratitude.

To those of you upon whom still rests the dews of the morning, may its ticking minutes find you learning to emulate and acquire the knowledge, ability and hospitality of your older professional brothers.

To those of you who are shining in the effulgent glory of the noon time of life, we convey the hope that ere the evening shadows of the day lengthen, we may on many, many future occasions be privileged to come to you, as we have been privileged to of yore, and enjoy your counsel, friendship and good cheer.

To those of you, in or approaching the evening twilight, we thank you for all that you have done for the profession of the state and we advance the hope that this time piece may be long in ticking off the hours before you will be required to wrap the draperies around you in preparation for your last resting couch.

And one and all, may this clock daily testify of our sentiments for you. May God bless you, and may Health, Wealth, Life, Power and Joy be the lot of every one of you, Grand Good Fellows that you are."

Its labors completed the committee respectfully requests its discharge.

Frederick C. Warnshuis, Chairman.

REPORT OF THE COMMITTEE ON VENEREAL PROPHYLAXIS

The Committee on Venereal Prophylaxis begs to offer the following report:

During the previous year your committee has not needed to undertake any formal work as a

committee, because venereal prophylaxis, both in our state and in our country, has been earnestly agitated by physicians and laymen. The committee regards with approval and pride this extension of the work originally committed to it by the physicians of Michigan and believes that further and further extension of this agitation will result in trustworthy public opinion, which is the basis of law and typical conduct.

The committee's previous report reviews the present situation of Venereal Prophylaxis. In the ways suggested in this previous report, this year has, as a whole, made wholesome and encouraging progress.

Your committee desires to express appreciation of the honor of representing in this important reform the sanction and leadership of the Medical Profession of Michigan.

A. P. Biddle, Chairman.
W. E. Blodgett,
Chas. E. Hooker.

REPORT OF COMMITTEE ON STUDY AND PREVENTION OF TUBERCULOSIS

A couple of weeks ago the following letter was received by the Secretary of the State Board of Health:

"*Dear Sirs.*—A few months ago I wrote to you concerning my son who is a consumptive. I asked you if he were allowed to go out among people and try to make his own living, as my means were exhausted.

"Well, he has tried his best to do so, but has failed entirely. People and everything is against him. When a person coughs all the time and has to carry a spit box around with him, why he has no show at all. Every door is shut against him. You said if he was not able to make his own living, that he was entitled to public support, but this county will do nothing for him outside of the poorhouse, and my son has a horror of going there. Neither would I want to be left alone, as I am afflicted with heart and stomach trouble.

"Now, I would like to ask you, isn't it possible that the state would do something for him? He cannot go to the state sanatorium, as he has been there his allotted time. Why don't this state build a home for the consumptives, where they can stay as long as they are sick? How can the poor consumptives make their living, even if they were able to work, when they are avoided everywhere, and doctors and health boards are forever warning people to keep away from them?

"I have heard so much about the Anti-Tuberculosis Society doing so much for the consumptives, but outside of the big cities, they don't do anything."

This letter states in a homely but eloquent way the need of a State Sanatorium for advanced cases of consumption and I believe this committee can perform no better service at this time than to call the attention of this Society to the urgent need of such an institution in the State of Michigan.

We all recognize that the tubercle bacillus is the exciting cause of consumption and that the sputum is the principal agent in the spread of the disease. Even when patients are up and about it requires considerable intelligence and constant care to take such precautions with the sputum as will prevent the infection of others. In advanced cases, patients become very careless in the proper disposal of their sputum and observation shows that tubercle bacilli are found chiefly in the immediate vicinity of open cases. A large number of cases arise in houses which have been inhabited by open cases.

The only way to prevent tuberculosis is to keep people from coming in contact with open or advanced cases. The spread of the disease can be most surely prevented by isolation of advanced cases in institutions for that purpose. Where institutional segregation has been resorted to the death rate has regularly declined. In several countries of the world this has taken place in direct ratio with the isolation of cases.

In England and Wales in the years 1886 to 1903 segregation of consumptives approximately doubled and the death rate diminished 50 per cent. In Russia, and still more in Berlin, an enormous proportion of the consumptives are treated in general hospitals and the mortality from tuberculosis in the last twenty years has diminished more than one-half. Similar reductions in mortality have obtained in other countries of Europe and in New York, San Francisco and other cities of this country.

There are in the poorhouses and jails of the State, as well as in many homes of the poor, a large number of advanced cases which are forced to remain in their present surroundings because a suitable institution for their care has not yet been provided.

The State Sanatorium at Howell is doing a splendid work, but it is for incipient or early cases only, and no provision has been made for the care of any considerable number of advanced cases.

There is no question but that the death rate from tuberculosis would markedly diminish everywhere if every advanced case were isolated in a sanatorium; and we believe the time will

come when every large community will have in its immediate vicinity, hospitals for the care of its consumptive poor.

We do not now refer to sanatoria for curative purposes, but to places of shelter for incurable, far-advanced cases which are often confined to rooms whose surroundings are hygienically bad and which are daily becoming worse by reason of the absence of those precautions which are so necessary to prevent the spread of infection. Until such time comes, the State should provide a place.

The National Association for the Study and Prevention of Tuberculosis has declared that if every county or township in the country should erect an institution for the treatment of these advanced cases, the disease would be wiped out in a few years, and the Michigan Association for the Prevention and Relief of Tuberculosis decided at its last meeting to inaugurate a campaign to induce the legislature of the state to make an appropriation for a hospital for advanced cases of consumption in the State of Michigan. It seems to us that this society with its 2200 members should join the State Association for the Prevention and Relief of Tuberculosis and the State Board of Health in this campaign. It is the duty of the state in one way or another to see that tuberculosis is prevented.

The State of Michigan has reason to be proud of its tuberculosis law which was passed by the legislature of 1909. There are, however, several desirable amendments to be made to our present regulations. At the present time there is no way of compelling a dangerous consumptive to go to an institution, or to stay there after he has once been admitted. The State of New Jersey has recently passed a law providing for the compulsory segregation of these cases and a similar law should be enacted in this state, empowering boards of health to remove ignorant, wilful, or vicious cases which are a menace to their surroundings, to places of detention and to keep them there as long as is thought desirable.

At the present time also no patient can be admitted to the state sanatorium at Howell unless he has been a resident of the State for a year. As it is sometimes found desirable to admit patients who have not lived in any county in the state long enough to have acquired a residence therein, the law should be amended so as to permit this to be done.

Such a case was recently found in Adrian and it became necessary for the governor to appeal directly to the board of trustees of the sanatorium to admit the patient without the usual legal right to do so.

As the law is at present constituted the board of patients is paid either by the patient or by the county from which he comes and there is at present no provision for the maintenance of such cases at the institution.

Owing to the fact that boards of supervisors do not always appreciate the importance of sending patients to the sanatorium, and seem to be more desirous of keeping down the taxes than the death rate in their counties, it is frequently impossible to induce them to send cases to Howell at public expense. The law should be so amended as to make it compulsory on their part to send a patient to Howell when so directed by a Board of Health.

Collins H. Johnston, Chairman.

REPORT OF THE COMMITTEE ON LEGISLATION AND PUBLIC POLICY

The year just past is one known in the Michigan legislative circles as an off year—there being no regular sessions of the legislature.

True, we have had two extra sessions called by the governor to consider special and specific subjects; yet at these sessions nothing of a medical or public health nature was considered. Nothing at these sessions could be legally or constitutionally considered other than those recommended from time to time by special message from the governor to the legislature. Therefore, if any amendments to our medical laws are to be made, they must be made during the next regular session of the legislature which will convene January, 1913.

STATE BOARD OF REGISTRATION

Many inquiries, which have taken on somewhat of the nature of criticism of the Board of Registration in Medicine have come to us as to why were not infractions of the law prosecuted by them. We would again reiterate that it is the duty under the constitution, of the prosecuting attorney of the several counties to enforce all provisions of the state acts, which of course includes the "Medical Act;" therefore it is not within the special province of the Board of Registration to institute and conduct such prosecutions.

PRELIMINARY EDUCATION

The standard of preliminary education in our state remains the same as when your committee offered its report last year, viz.; a high standard high school course, and our board has rigidly demanded that this standard shall be 100 per cent. in value in order to pass muster, and with such tenacity have they upheld this standard that it called forth the following from Flexner in the Carnegie report. "Michigan is fortunate in the possession of an alert state board, which enforces with vigor the high school requirements, and perhaps can be counted on to advocate an advance of the state practice standard to meet the educational standard of the state university.

It seems to your committee that the time has come when such advancement should be made. If such can not be accomplished by the voluntary action of the medical colleges within our state, then by legal enactment. We are fast removing the stigma that the medical profession is not an educated one, at least as compared with that of law and theology. Twenty-five years ago the percentages of college trained clergymen was 25 per cent., lawyers 20 per cent. and doctors but 8 per cent. While in our country to-day the clergymen stand 80 per cent., lawyers 52 per cent. and doctors 49 per cent. Surely advances have been made all along the line but medicine still remains upon the lowest line.

THE MIDWIFE

The midwife we have always with us. She should either be eliminated or controlled and not be permitted to run at large.

OSTEOPATHS AND CHIROPRACTICS

The osteopaths and the chiropractics have come to regard each as a traitor to the other and the medical profession of this state will do well to leave them where he finds them as the Irishman did the Kilkenny cats.

SPECIALTIES

The subject of the specialists should demand some attention from this society and the profession at large. At the present time, once in the profession, a man may become in a moment, in the twinkling of an eye, by virtue of his own assertion, a specialist on the eye, ear, throat and nose; surgery, gynecology, or what not, or all combined. We have six weeks' and three months' specialists everywhere.

There must come sooner or later, state control of these men, who enter into a field that on the very face of it, demands special training after a large general experience.

The medical profession of the state will do well to see their representative immediately after election.

A good plan, it would seem, would be to have each county medical society set apart a meeting to consider the needs and requirements of the profession, and invite and see to it that your state representatives and senator are present. This would be of immense value to your committee when they came to work on the ground at Lansing in favor of or against any proposed legislation.

Edward T. Abrams, Chairman,
Guy L. Kiefer.

FOURTH ANNUAL MEETING OF THE COUNTY SECRETARIES ASSOCIATION

The Fourth Annual Meeting of the County Secretaries Association was called to order in the Hotel Occidental, Muskegon, July 9, by President C. E. Boys.

In the absence of Secretary Southworth, the state secretary, Dr. Wilfrid Haughey was requested to act as secretary. The attendance was small, but made up in enthusiasm what was lacking in numbers.

Dr. DeKline moved that the County Secretries Association recommended that the annual meeting be held in the evening of the day before the meeting of the state society, and that the executive officers of the state society be invited to meet with this association.

Supported and carried.

Under the head of election of officers, Dr. DeKline moved that the secretary cast the ballot for the reelection of the present officers.

Supported and carried.

The secretary cast the ballot of all present for Dr. C. E. Boys, president; Dr. G. M. Livingston, vice-president; Dr. C. T. Southworth, secretary, and they were declared elected.

Dr. Frederick R. Green, Secretary of the Council on Health and Public Instruction of the American Medical Association, addressed the meeting on matters of Public Health Education and the Relations of the Medical Profession to the people.

Dr. W. C. Garvin, of Tuscola, presented a paper on "The Tuscola County Medical Society

Plan for Care of the Indigent Sick." Discussion was opened by Dr. Bradley and joined in by several. Dr. C. M. Williams sent his paper by mail.

Other essayists not having arrived, the meeting was adjourned.

Wilfrid Haughey,
Secretary pro tem.

Tuscola County Medical Society Plan for the Care of the Indigent Sick

W. C. Garvin, M.D., Millington, Mich.

For nearly five years the Tuscola County Medical Society has been under contract with the Board of Supervisors for the care of the indigent sick of the county. The operation of this contract has accomplished so much for harmony between physicians and supervisors, for the indigent sick, for the community in general and above all for the Medical Society that I am pleased to give a detailed account of its operation.

Before the adoption of this contract there was considerable friction between the doctors and supervisors relative to the remuneration, if any, that the medical attendant was to receive for the care of the sick poor. In order to receive anything, whatever, for his services in these cases, the doctor must first obtain an order from the supervisor of the township in which the patient resided. Many times these orders were unjustly withheld and when once secured would insure but meager returns for the services rendered, because the board of supervisors had established a scale of fees far below the established rate for ordinary medical services. When it is remembered that it was only for cases of continued illness that the physician asked the supervisor to guarantee his pay from the county poor fund, nothing being said of the many single visit cases, the injustice of these reduced rates become much more apparent.

At an early date, after the organization of our county society, it was undertaken to establish some plan whereby these objectionable features would be removed and at the same time secure better services for the invalid poor. The first plan proposed to the supervisors did not meet their approval and the board made matters even worse by undertaking to care for the indigent by making contracts with individual physicians to perform this service within a prescribed area, as a township or a village, at a fixed amount per annum. Through the operation of this plan the sick poor people of these districts had no option in the selection of a physician, but must treat with the one receiving such appointment; or, if they did call the doctor of their own choice, and he did not hold a contract but through kindness of heart treated them, he must do so without financial reward because some one else was receiving pay for this service.

Such instances frequently occurred, and it was a question if those holding contracts actually did any more practice among the indigent than the other physicians in these territories. In the most populous communities, where several doctors might be located, the letting of the contract to the lowest bidder, did not bespeak the best services and tended to create discord and many professional discourtesies.

I am not acquainted with the methods in vogue in other counties of the state in regard to the care of the indigent. I presume, however, that in many of the counties, at least in those that do not boast of one or more large cities, some of the above described conditions exist and I need not emphasize their evils.

The Tuscola County Medical Society met these conditions in the following manner: in 1907, the society was incorporated under the laws of the state, which rendered it competent to transact business as an individual and would make binding any contract legally entered into. Oct. 15, 1907, an agreement was made and entered into with the Board of Supervisors whereby the Tuscola County Medical Society contracted to furnish and provide the necessary medical treatment and drugs (except antitoxin), also to furnish hospital services, transportation, and all necessaries pertaining thereto for the proper treatment of all indigent poor persons and cases of treatment of the poor of said county of Tuscola that said county of Tuscola is by law required to care for and provide with medical treatment and necessaries in case of illness as aforesaid, in consideration of the sum of $3,175.93. This amount was determined by ascertaining the total amount that the county had paid for such services and necessaries for the three preceding years, and dividing the amount by three to arrive at the yearly average amount. The contract provides that the money is to be paid to the treasurer of the society in equal quarterly payments on January 15, April 15, July 15 and October 15 of each year that the contract remains in force. That the supervisors of the several townships

shall be the sole judges of all indigent cases to be treated within the limits of their respective townships, and that the services shall be rendered promptly and with the same care and attention as the law requires to be rendered in other cases.

The society has made the following disposition of the sum thus received. Eighty per cent. is at once divided per capita among the members regardless of the amount of services rendered by each under the provisions of the contract. The remaining 20 per cent. is used for the paying of the hospital and other extraordinary expenses of the society. Some of these expenses are the following. The secretary-treasurer receives $35.00 per year for his services. We have usually paid those physicians from outside the county, who have read papers before our society $5.00 which, while not intended to pay them for their time, is generally a little more than the expenses they incur in attending the meeting. When, on account of the adoption of medical defence by the State Medical Society, the fees were raised to three dollars, our county society discontinued collecting all county dues, but requires each doctor to pay the state dues only.

It was considered best not to pay all dues out of the funds received from the county because there are a few physicians in our society, who have not been enthusiastic in attending the meetings and we seldom hear from them except at the time they pay their dues, and we use this means to keep in touch with them. No difficulty has been experienced in our society in collecting the dues since the organization of this contract plan, however, because none care to be suspended and thereby lose their portion of the spoils. The annual meeting in our society is held in October, and nearly all the dues for the ensuing year have been paid at that time and the dues for our entire membership are paid to the Michigan State Medical Society before January 1 of each year.

Let us now review the benefit to be derived by the indigent sick by the operation of the Tuscola County plan. Since Oct. 15, 1907, the sick poor of the county have been entitled to call any member of our county society and that includes all but five of the legally qualified physicians residing in the county (some of these but recent arrivals), and rightfully expect that they would receive as prompt and as careful attention as if they were able to pay for the care themselves. So far as I have been able to learn this provision has been carried out to the letter. I have been unable to learn of a single instance in which anyone has been refused medical attention solely because he was poor.

Another kindly feature of this plan is that although poor, many are not necessarily subjected to the humiliation of making an application to their supervisor, thereby publishing, as it were, their dependency, which to many must be very distasteful. Then, too, the poor people of our county have been greatly pleased and entirely satisfied with the operation of this plan, because the service rendered them has, in no instance, been grudgingly given.

I think nothing has ever been proposed that has created the interest, promoted the good will and increased the membership of a medical society as has the consummation of the foregoing plan. Considering that our county is strictly a rural community; composed of no cities but only of villages and country cross roads, and the physicians situated in all parts of the county requiring them to travel considerable distances in order to attend the meeting, we feel justly proud of the Tuscola County Medical Society in point of membership, interest, and attendance. There are forty-six legally qualified physicians in Tuscola County, forty-one of whom are members of our society. Of the five physicians who are not affiliated with us two are but recently located in the county; one confines his practice to the eye, ear, nose and throat; one is not in active practice; and one has no choice in the matter. The percentage of attendance at our meetings compares very favorably with that of any other county society. It was better than 50 per cent. during the past year.

Situated as we are, it is not practical for us to hold weekly or even monthly meetings as is possible in cities or larger towns but we do have worth while meetings every two months usually with one or two scientific papers by eminent physicians from out side the county, and these papers are usually enthusiastically discussed. Our organization has done a great deal to stimulate a friendly feeling among the physicians in our county, and has overcome much of the petty jealousies so often seen among neighboring doctors. I firmly believe that much more has been accomplished along these lines in our society than it would be rea-

sonable to expect had we not adopted the above plan for the care of the indigent sick; for the financial feature certainly brings and binds us together.

The Value of Publicity to the Medical Society

C. M. Williams, M.D., Alpena Mich.

Publicity is the stuff that molds public opinion. In these days of competition with all forms of non-medical treatment of the sick, the educated physician must present to the public the advance in medical knowledge, and must undertake to show the value of scientific treatment. No one is in the position to do it as well as the secretary of the County Society; and it is with this thought in view, that a few ideas are presented from the experience of the Alpena County Medical Society. The most important medium of publicity is the newspaper. An enthusiastic report of the doings of the local society should appear regularly before and after each meeting. This report should be full of interesting information, and should be written by the secretary himself, and not be left to the scant information the reporter might give. Since the first day of January, this year, Alpena papers have printed in their columns medical news furnished by the society, that when brought together makes a newspaper of twelve pages the size of *The Detroit Free Press.*

Not only have the regular meetings, clinics, and visiting guests received attention; but we have promoted, and assured the erection of a hospital, through publicity. Alpena has no hospital. The Medical Society wanted one. The publicity bureau got busy; every day for a month we ran a series of 101 reasons why Alpena should have a hospital. Then several cartoons representing the need, and finally, information concerning cost, equipment, maintenance, and cuts, loaned us by Borgess Hospital, Kalamazoo; Mercy Hospital, Cadillac, Adrian Hospital; Hubbard Hospital, Bad Axe, Norwegian Hospital, Iron Mountain; Hurley Hospital, Flint; Oakland County Hospital, Pontiac; Nickolds Memorial Hospital, Battle Creek; Sparrow Hospital, Lansing; and Hackley Hospital, Muskegon. This publicity interested the Chamber of Commerce in the Hospital project. They called a public meeting; invited the Medical Society to prepare the program; an enthusiastic gathering crowded our largest theater, and our Hospital Association secured one hundred members at $100 each.

The subject of prevention of disease, particularly typhoid and tuberculosis, has taken up considerable space in our dailies, as well; which has given the public a keener appreciation of medical services than ever before.

Visiting specialists: Frank Witter, Petoskey; Andrew P. Biddle, Detroit; J. A. MacMillan, Detroit; have held clinics in Alpena and have aided greatly in raising the appreciation of the people to our Medical Society, as well as increasing our own energy and zeal in the cure of the sick.

Particular mention should be made of the visit of Angus McLean of Detroit, who was invited by our Chamber of Commerce to deliver the address at their annual banquet. He rendered such a tribute to the unselfish labors of medical men in the past in the prevention of disease, and the advancement of human happiness, that his speech is remembered and discussed to this day.

The Alpena Society believes it to be good advertising to use the State Medical Journal, as a means of publicity. We have therefore sought to write up our meetings in an attractive manner for our state publication.

We have also published the *Alpena Medical News*, copies of which I have sent the secretaries of the various county societies. This little *News* published monthly has a mailing list of 300, about one-half of whom are local men of affairs. This booklet has been of particular value in building up the local society, and in securing good attendance at our meetings. The *News* has netted us about $12 in the six months of its existence, while of course the publicity obtained in the State Medical Journal, and the local newspapers has not cost one cent.

Publicity obtained by public addresses has its own value. Here, as in advertising an anti-tuberculosis meeting, we made use of street and window signs, as well as verbal invitations. A banquet given to the speaker of the evening, at which we had as our guests, the clergy, the superintendent and principal of schools, the president of the school board, the president and secretary of the Chamber of Commerce, officers of the Anti-Tuberculosis Association, and officers of the Hospital Association, created a cordial good feeling among the other professions which is unusual. One result of this new fel-

lowship is a challenge from the clergy to a game of baseball, proceeds to go to the Hospital Association.

And what has been the result on the Medical Society of all this publicity? Our profession is united. We have members who attend regularly from a distance of sixty miles. Specialists are pleased to come several hundred miles to address us, and hold clinics. We have big monthly meetings, at which all our members take part. We have conducted suits against the county for contagious disease bills, and won them. The supervisors have asked us to bid for the care of contagious diseases, according to Tuscola plan. Our advice and counsel are being sought by the Chamber of Commerce and other civic bodies. We have adopted a fee bill. We are pledged to abate the evils of contract practice. We are united in combating non-medical treatment. The ethics of medical practice have improved 100 per cent. Old grudges have been wiped out. Enemies of years have become consultants. And medical science has advanced.

SOCIETY NEWS

ALPENA COUNTY MEDICAL SOCIETY

Dr. Andrew P. Biddle of Detroit, was the guest of the Alpena Medical Society June 19. Dr. Biddle presided at a skin clinic, which was held at Dr. Cameron's office at 10 a. m. About a dozen cases were presented by local physicians, the demonstration and discussion of which proved most valuable. A case of general pigmentation of the body, without other symptoms, called forth a lecture from Dr. Biddle on the ductless glands, and their influence on pigmentation.

Following the clinic the party, eighteen in number, drove out to the Country Club, where James Eakins, J. D. Dunlop, and J. W. Small entertained the society at dinner. After dinner the program of the day was carried out. Dr. A. P. Biddle giving a paper on the relation of Skin Diseases to General Medicine. J. D. Dunlop, A. E. Bonnerville, and E. E. McKnight, also assisted in making the program interesting.

Among the guests of the day was A. J. Wilkinson, president emeritus of our society, who did the honors of the occasion in introducing his friend, Dr. Biddle, to the Society.

C. M. Williams, Secretary.

BAY COUNTY MEDICAL SOCIETY

On May 20 the following program was carried out: "Diagnosis and Treatment of Catarrhal Pneumonia, Complicating Diseases of Childhood," Dr. G. M. McDowell; discussion, Drs. Ruggles and Perkins.

"Present Status of Salvarsan in Syphilis," Dr. R. C. Perkins; discussion, Drs. McDowell and Ruggles.

"Some Newer Heart Remedies," Dr. F. E. Ruggles.

On May 27, Dr. John McLurg read a paper on "Prognosis," which was freely discussed. Dr. Warthin, of Ann Arbor, and Dr. Dixon, secretary of the State Board of Health, were present at this meeting.

Dr. Warthin gave an interesting and comprehensive talk on "Leprosy," showing photographs of two Michigan lepers. The doctor was in the city with Dr. Dixon to make an examination of Mr. Hirschfield, the Bay City leper. The talk was therefore very timely.

Health Officer Goodwin showed some very good microscopic specimens from a nodule taken from this case.

On June 3, the following program was given: "Anti-Typhoid Vaccination," Dr. F. H. Randall. "Intestinal Lesions in Experimental Arthritis," Dr. A. F. Stone.

Dr. V. L. Tupper reported a case of supposed suppurative appendicitis, which proved to be a diverticulum ruptured at its base. Resection was done with recovery. The specimen was exhibited.

Dr. R. E. Scrafford reported the finding of trichomonads in a specimen of urine.

At the meeting on June 17, Dr. W. W. Williams read a review on the "Treatment of Diabetes Mellitus," the other two members on the program not being present.

The last meeting before the summer vacation occurred on June 24. This meeting closed a six months' series of weekly meetings. Never before has the society held more than one meeting in June. The attendance throughout has been

fully up to the average of monthly and semi-monthly meetings.

The program committee has suggested that the members make an agreement to omit office hours on the evening of the society meetings thus allowing us to meet earlier and more promptly, and assuring a larger attendance.

JUNE BUSINESS MEETING

The adoption of By-Laws was a special order of business for this meeting. The old by-laws were revised to accord with our organization as a corporation.

The following paper was reviewed: "The Management of Squint in Children," Dr. P. R. Urmston. Discussion by Drs. Baker, Ruggles, W. R. Ballard and J. W. Gustin.

The society voted to send the secretary to the meeting of the County Secretaries' Association, which meets in Muskegon on the day before the meeting of the state society.

H. N. Bradley, Secretary.

GENESEE COUNTY MEDICAL SOCIETY

Special meeting of Genesee County Medical Society was held June 25 at 8:30 p. m. in Judge Halsey's room, City Hall.

It was voted to meet in Flushing July 30 and to have a picnic at Lake Orion, Aug. 20.

The good quality of the papers compensated those who attended this meeting during the excessive heat.

Dr. M. W. Clift presented a paper entitled "Hemorrhagic Disease of the New Born."

Dr. H. E. Randall read a paper on

The History of Blood-Vessel Surgery and Transplantation of Organs

(Abstract.)

Newspaper reports of the transplantation of organs amaze the public, but the unfortunate thing about them is that the reports are not true. The medical imagination is stimulated by the possibility of replacing old worn-out organs with new ones. Even medical men and writers have an erroneous idea of the success that has been obtained in transplantation of organs.

The first step to be made in transplantations could not be taken until the principles of blood-vessel surgery were known. Blood-vessels unlike the peritoneum heal from the internal surface. Wounds of the stomach and intestine are healed by bringing peritoneum to peritoneum. Blood-vessels are healed by reverse process—by bringing intima to intima. Virchow taught that a blood-clot was necessary. This teaching was proved erroneous in the development of successful technic. Ech in 1879 did the first permanent union of blood-vessels in making a lateral anastomosis between the portal vein and the vena cava. The operation is known as an Ech's fistula.

Page in 1900 published his invagination with absorbable ring of magnesium, but it remained for Carriel to perfect the technic by suture. v. Hirsh in 1881 did the first end to end anastomosis in the veins of dogs. Murphy in 1897 published his invagination method, but results were not always uniform and successful. In 1903 Höppner transplanted a segment of the carotid artery into the femoral and placed the femoral section in the carotid artery and specimens removed two months later showed a smooth intima. Carriel up to 1905 had avoided penetrating the intima by the stitches but hereafter included it in the suture as recommended by Dörfler. Matas operation for aneurysm is based upon the advanced knowledge of the healing process of vessels, so that an obliterative, restorative, or a reconstructive operation may be done.

In looking over the results obtained in various transplantations the results are not encouraging.

Small slices or sections of the thyroid can be successfully transplanted, which has been proved clinically in man. Halstead has transplanted a parathyroid for tetany in dogs with success. Removal later caused death by tetany.

No one has yet succeeded in transplanting kidneys from one animal to another except for a few weeks. One animal's own kidney can be removed and replaced and the animal will live for years. In taking kidneys from the same species even from a brother or sister, the animals all die in a few weeks. It is true that the kidney will secrete urine but in a short time the animals die of uremia. In one transplanted kidney the other kidney does the work and keeps the animal alive. If the other kidney is replaced by another kidney the animal will die in a few weeks.

Head, heart and girdle have been transplanted. In head there was no return of voluntary movement. The transplanted heart will beat for some time. No one has succeeded in getting a return of functions in a transplanted limb with nerve suture as well as blood-vessel anastomosis.

Transplanted ovaries in the hen give interesting results. White and black leghorn pullets with transplantation of ovaries show no loss of eggs. Hens from which ovaries are removed lay no eggs. In black breeds with white ovaries black predominates. In white breeds with black ovaries white predominates. Crossing of white with black chickens probably gives a predominance of white chicks, but in ovary crossing this did not hold true.

Transplantations from an angora doe rabbit, fertilized thirty-two hours before by an angora buck, of two segmenting ova were placed in the fallopian tube of a Belgian hare covered three hours previously by a Belgian buck. At full term the Belgian doe gave birth to six young, four resembling herself and mate, and two being undoubted angoras.

Transplantation Conclusions

It would seem we have been carried away with the possibilities of transplantations. An organ can be transplanted with success but this is the only case I know of in literature. Small portions of thyroid have been transplanted successfully in the human species. The parathyroid can probably be transplanted successfully. But the results to be obtained in total transplantations of organs give very meager results.

In the portion or slice transplantation such as fascia, fat, skin, cornea and bone, union may be expected.

Bone is perhaps the best transplantable material in the human body, as has been shown by Murphy, Lexer and Kuttner. Vein segments may be used to supply defects in arteries or urethra or ureter.

C. P. Clark, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

At the meeting May 28 Dr. B A. Shepard read a paper on

Gastric Motor Insufficiency

(Abstract.)

The development of the gastro-intestinal tract is one of the earliest events of embryonal life. There are three divisions. From the foregut are developed the esophagus, stomach and duodenum with their appendages, the liver, pancreas, etc. The liver and pancreas are developed from the duodenum by a process of budding, the primary stalk becoming the bile duct, of which the primitive gall-bladder is an extension about the second month.

The muscle walls of the stomach are so arranged as to get the greatest amount of service from the functional subdivisions. The muscle layers of the stomach are continuous with those of the duodenum and thence to the bile and pancreatic ducts, as is also the corresponding nerve supply. This is given as an etiological factor in the stagnation of bile and the resulting formation of gall-stones following gastric motor insufficiency.

Physiologically, the stomach is divided into two portions. The fundus acts as store-house, while the antrum is given to mechanical and chemical digestion. Muscular undulations of the lower part are of great importance to digestion, while the upper part simply maintains a constant pressure, forcing food along into the antrum as it is needed there.

Motor insufficiency may be atonic or relative. Causes of atonic are local or systemic. Disuse, improper nutrition, overwork, bolting and excess of food, excess in drinking and improper mastication are given as frequent causes. Its relation to insanity, epilepsy, etc., is frequent, both as a causative factor and as a result. Its relation to cardio-vascular and senile changes is close.

A discussion of the symptoms and treatment was given, in which the Leube test meal was recommended as the best; seeds and raisins being advised against. The treatment, should be individualized, proper oral and dental care being absolutely necessary, and this should be in the hands of a competent dentist. Medicines and mechano-therapy must be suited to the individual case.

The discussion with reference to the feasibility of a tuberculosis clinic in Kalamazoo, was almost unanimously favorable to the project. The subject was introduced by Dr. Herman Ostrander, who asked the opinions of the practicing physicians in regard to it. Some of the plans which were suggested were either by Dr. McMichael or the result of his visit here a month ago. The plan was to devise some means of caring for this class of patients in a place for that special purpose, and where some one or two physicians would give them care. Having a large number of these cases in their charge, would make these men more proficient in the recognition and treatment of the disease. It was believed that the longer the term of holding this position, the better it would be. It was stated by some that tuberculosis cases are offensive and dangerous to

have in private offices, and this clinic would improve this condition by putting more of them together, and in a separate place from private offices. It was believed by some that a clinic provided with one or two physicians to direct the work, and one or more nurses to follow up the cases, to be the only manner of handling the tuberculosis cases of the city properly.

A motion prevailed that a committee of five be appointed to meet with the Anti-Tuberculosis Society to discuss this clinic and report next meeting.

The June 12th meeting was at Allegan as the guests of the Allegan physicians.

Dr. C. E. Boys read a paper on "Puerperal Sepsis—Its Prevention and Treatment." This paper was discussed by Drs. Hochstein, Vaughan, H. B. Osborn, Bosman, Carnes, Crosby, Read, Fulkerson, Crane, Rockwell and Stone.

Dr. J. H. Kellogg, of Battle Creek, was then called on for an informal talk. He responded by reporting briefly upon the work done by Ross, of London, on cancer research, whose opinion is that cancer is due to undue stimulation of normal cells.

Thirty were present.

GRAND TRAVERSE-LEELANAW COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Grand Traverse-Leelanaw County Medical Society was held on the evening of July 2 in the office of Dr. H. Thurtell.

Minutes of last meeting read and approved.

The secretary was instructed to send a letter to the prosecuting attorney, stating that the society wishes to act with him in the prosecution of illegal practitioners, quack concerns, etc.

Dr. Thurtell and Dr. O. E. Chase were elected delegate and alternate respectively in place of the regularly elected delegate and alternate who are unable to attend.

Dr. Fralick of Maple City, read a very interesting paper on "Puerperal Eclampsia." The paper was followed by a general discussion. Meeting adjourned to meet again in September.

R. E. Wells, Secretary.

LENAWEE COUNTY MEDICAL SOCIETY

Lenawee County Medical Society held its July meeting at the Monroe Piers. There was a good attendance and all present did justice to the fish dinner. After dinner, owing to the kindness of our councilor, Dr. Chas. T. Southworth, Commodore Greening of the firm of Greening Bros. Nursery, and famed as a landscape gardner, came down to the Piers with his boats, the "Bab" that held thirty, as well as the motor boat, "Commodore," a second "Kitty Hawk." He took all the members for a ride on Lake Erie. To say we all enjoyed it is very mild, for not one of the members or visiting doctors from Toledo and Detroit as well as our state secretary, Dr. Wilfrid Haughey of Battle Creek will miss the next meeting at the Piers.

However, in spite of our good time there was a feeling of sorrow in the minds of the regulars of the society, for two were absent, not from lack of interest, but it was the Great Hand above calling a dear and devoted wife of one, while the other took care of the patients of the devoted husband.

The next meeting on August 13 will be a basket picnic at Sand Lake, at which all the families of the members will help to keep alive the social side of the medical meetings. Dr. North of Tecumseh will be quiz master of that meeting.

I. L. Spalding, Secretary.

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1912, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Proferrin is a compound of iron and milk casein. It is tasteless, insoluble in water and dilute acids, slowly soluble in alkalies. It is used as a ferruginous tonic. It undergoes very little change in the stomach but is said to be quickly digested and absorbed in the intestine. Its hematogenous actions resemble those of other organic iron preparations. Dose, 0.13 to 0.3 gm. (2 to 5 grains). It is also marketed in the form of tablets, each containing, respectively, 0.065 gm. (1 grain), 0.15 gm. (2½ grains) and 0.3 gm. (5 grains). H. K. Mulford Co., Philadelphia, Pa. (*Jour. A. M. A.*, May 4, 1912, p. 1356).

Tyramine is parahydroxyphenylethylamine hydrochloride $OH.C_6H_4.CH_2.CH_2.NH_2.HCl$, the hydrochloride, of synthetically prepared parahydroxyphenylethylamine. Taken internally or injected subcutaneously tyramine increases the blood-pressure; it is also claimed to be valuable for producing post-partum contraction of the uterus. The action is similar to epinephrin, being weaker and slower but lasting longer. It is marketed in the form of hypodermic tablets (Tabloid Tyramine Hypodermic) each containing 0.02 gm. (⅓ grain), Burroughs Wellcome & Co., New York (*Jour. A. M. A.*, May 4, 1912, p. 1356).

Tuberculin-Rosenbach is an "old tuberculin" modified by growing in a culture with Trichophyton holosericum album. It is claimed to be less toxic but more efficient than other forms of tuberculin. The validity of these claims is not fully confirmed. Kalle & Co., New York (*Jour. A. M. A.*, May 4, 1912, p. 1356).

Cresatin is meta-cresyl, acetate, $CH_3.C_6H_4.O(CH_3CO)$, the acetic acid ester of meta-cresol. It is said to be antiseptic and analgesic and is recommended for use in the treatment of affections of the nose, throat and ear, such as follicular tonsillitis, nasal suppuration due to ethmoidal diseases, atrophic nasopharyngeal catarrhs, furunculosis of the external auditory canal and purulent otitis media. Schieffelin & Co., New York (*Jour. A. M. A.*, May 25, 1912, p. 1582).

Pharmaceutical Preparations of Accepted Articles:

Novocain Tablets "D" each containing novocain 0.2 gm. (3 grains).

Novocain Tablets "F" each containing novocain 0.05 gm. (¾ grain).

Novocain Suprarenin Tablets "A" each containing novocain 0.125 gm. (2 grains) and suprarenin 0.000125 gm. (1/500 grain).

Novocain Suprarenin Tablets "B" each containing novocain 0.1 gm. (1½ grain) and suprarenin 0.00025 gm. (1/250 grain).

Novocain Suprarenin Tablets "C" each containing novocain 0.05 gm. (¾ grain) and suprarenin 0.000083 gm. (1/1000 grain).

Novocain Suprarenin Tablets "E" each containing novocain 0.02 gm. (⅓ grain) and suprarenin 0.00005 gm. (1/1200 grain) (*Jour. A. M. A.*, May 4, 1912, p. 1356).

Cholera Bacterin, Mulford is designed for the purpose of immunizing against cholera and contains killed cholera vibrios. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, June 1, 1912, p. 1685).

Typho-Bacterin, Mixed, Mulford, is a typhoid vaccine containing killed *Bacillus typhosus* and *Bacillus paratyphosus* A and B. H. K. Mulford Co, Philadelphia (*Jour. A. M. A.*, June 1, 1912, p. 1685).

Bismuth Beta-Naphtholate (Bismuthi Betaphtholas) is a bismuth salt of beta-naphthol. It is a brownish or grayish powder without odor, almost tasteless and insoluble in water. It is decomposed into its constituents in the intestines and hence is used in catarrhal and fermentative gastro-enteric disorders, such as gastritis, dysentery, diarrhea, etc. Dose, for children 0.1 to 0.3 gm. (1½ to 5 grains) and for adults 1.5 to 5 gm. (22 to 75 grains) daily.

Bismuth Beta-Naphtholate, Mulford, complies with the description given above. It is also marketed in the form of tablets each containing 0.3 gm. (5 grains). H. K. Mulford Co., Philadelphia (*Jour A. M. A.*, June 15, 1912, p. 1857).

Purified Extract of Adrenal Gland, Mulford, is an extract of the suprarenal gland, standardized physiologically by measuring its effect on blood-pressure and so adjusted as to correspond to the effect of 4 per cent. of purified epinephrin. It has therefore approximately four times the strength of desiccated suprarenal gland U. S. P. It is marketed as follows: Adrenal Ointment, Mulford containing purified extract of adrenal gland, Mulford 25 parts, boric acid 1 part in 1,000 parts. Urethral Suppositories Adrenal Comp., Mulford each containing purified extract of adrenal gland 0.06 gm. (1 grain), cargentos 0.13 gm. (2 grains). Vaginal Suppositories Adrenal Comp., Mulford each containing purified extract of adrenal gland 0.06 gm. (1 grain), cargentos 0.13 gm. (2 grains), ichthyol 0.13 gm. (2 grains). H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, July 13, 1912, p. 121).

Articles Accepted for N. N. R. Appendix

Lozenges Adrenal Comp., each containing dried suprarenal gland 0.01 gm. (1-6 grain), menthol 0.0013 gm. (1-50 grain), benzoic acid 0.0026 gm. (1-24 grain), eucalyptol 0.0013 gm. (1-50 grain).

Rectal Suppositories Adrenal each containing dried suprarenal gland 0.3 gm. (5 grains) (*Jour. A. M. A.*, July 13, 1912, p. 121).

THE TRUTH ABOUT MEDICINES

It is the purpose of this department to encourage honesty in medicines, to expose frauds and to promote rational therapeutics. It will present information regarding the composition, quality and value of medicaments, particularly as this is brought out in the reports of the Council on Pharmacy and Chemistry and of the Chemical Laboratory of the American Medical Association.

Turner Obesity Cure.—Dr. Turner's Obesity Cure belongs in the same category as the Marjorie Hamilton "cure." Money is obtained from victims under the pretense that dieting, exercise and purging are not a part of the treatment. After obtaining the money the victim finds that he must follow a strict diet, that he must exercise and that he must take medicines, sold by the concern, particularly "Dr. Turner's Concentrated Food Tablets" and "Dr. Turner's Special Food Tablets" which, when examined in the Association's Chemical Laboratory, corresponded in composition to evaporated whey. Attempts are also made to wheedle the victims into purchasing a "To-Kalon Keapshape Corset" or a "Neal Reducing Belt." Dr. Turner whose name is used in connection with this obesity cure is also the manager of the Vanadium Chemical Company, which exploits various vanadium preparations to the medical profession (*Jour. A. M. A.*, June 22, 1912, p. 1961).

Look Whom You Trust.—As a business house would scout a request to cash a check presented by an unknown individual, so physicians should refuse to pay attention to the claims made by firms of unknown standing. Still more should they refuse to pay heed to any preparations put out by a firm which has once been shown to be unreliable, as much as a commercial concern would quickly and positively refuse to cash the draft of one whose paper has been found to be worthless. These thoughts are suggested by an inquiry concerning the value of phytoline, put out by the Walker Pharmacal Company. A report of the A. M. A. Chemical Laboratory on hymosa (*Jour. A. M. A.*, June 11, 1910), exploited by the Walker Pharmacal Company, shows that this firm puts out nostrums of the worst class, namely, the kind whose composition is falsely declared and hence should receive no consideration (*Jour. Mo. State Med. Assn.*, June, 1912, p. 485).

Trench's Remedy.—Trench's Epilepsy Cure is sold in Great Britain in the form of a liquid containing potassium bromid and ammonium bromid. In the United States it is sold in the form of a powder which was reported to consist of potassium bromid, 61 parts and moist brown sugar, 39 parts. When this was dissolved in water, according to directions, the finished mixture was calculated to contain potassium bromid 120 grains in each fluidounce. It is thus seen that this nostrum like all other "epilepsy cures" depends for its virtue on bromids which given in quantities larger than any physician who respects his patient's welfare—or his own reputation—would dare to prescribe, produce effects that impress the layman with their potency. Those who purchase these "epilepsy cures" mistake a temporary suppression of the attacks of epilepsy, produced by large quantities of bromids, for a cure (*Jour. A. M. A.*, June 29, 1912, p. 2043).

Taking the Measure.—At one time the Tilden Company, New Lebanon, N. Y., stood rather well with the profession and hence it has been a surprise to some that none of its preparations are found in New and Nonofficial Remedies. The reason is given in a report of the A. M. A. Chemical Laboratory on Hydrocyanate of Iron—Tilden. The report showed that the firm held the composition of the remedy a "trade-secret"—analysis showed it to be a mixture of Prussian blue and talc—and that the statements made regarding it, if not absolutely false, were at least distinctly misleading. A recent prosecution of the Tilden Company for misbranding its acetanilid-phenacetin mixture, Febrisol, shows that the firm's policies have included deception (*Jour A. M. A.*, June 29, 1912, p. 2043).

Calcium Glycerophosphate. — Believing that the glycerophosphates were of some probable value, the Council decided to describe calcium glycerophosphate in New and Nonofficial Remedies, so that definite standards of quality might be prescribed. The Association's Chemical Laboratory having, at the request of the Council, taken up the examination of the supply of calcium glycerophosphate on the American market and entered into correspondence

with the manufacturing houses, now reports that no product of even fair quality is to be had, and that those who make it appear not inclined to make improvements. Investigation having shown that the glycerophosphates are probably not superior to ordinary inorganic phosphates, there is little likelihood that a consequent decreasing demand will be any inducement to provide a good quality of drug in the future. In view of these conditions, the Council decided not to describe the drug in New and Nonofficial Remedies (*Jour. A. M. A.*, July 13, 1912, p. 134).

BOOK NOTICES

A Treatise on Tumors. By Arthur E. Hertzler, M.D., Ph.D., Assistant Professor of Surgery in the University of Kansas. Lea & Febiger, Philadelphia and New York, 1912. Cloth, $7 net; half Persian Morocco, gilt top, de luxe, $9 net.

A vast amount of surgical literature is devoted to tumors. This book is a pathologic text-book on tumors written by a surgeon. It is profusely illustrated, not only with microscopic anatomy, but with pictures showing the appearance of tumors in all parts of the body. The descriptions of various tumors are complete, not only from a pathologic standpoint, but give us what so many pathologic textbooks fail to give—a paragraph on diagnosis, one on prognosis and one or several on treatment. The book is of value not only from a literary standpoint, but especially because of the excellence of the illustrations. The classification is that which a surgeon would naturally make, one that should be most valuable to a surgeon. For instance: all the tumors of the ovary are considered together; tumors of the uterus in another section; tumors of the liver and gall-bladder in another section and tumors of the face in another section. The first half of the book, of course, is devoted to the general classification of tumors from a pathologic standpoint, with special reference to diagnosis and treatment.

A Pocket Formulary. By E. Quin Thornton, M.D. Tenth Edition, Revised. Lea & Febiger, Philadelphia and New York. Price, $1.50 net.

This is a new edition of Thornton's Formulary, up to date and arranged in alphabetical order of diseases, with cover pocket for notes, etc.

Heredity in the Light of Recent Research. By L. Doncaster, M.A., Fellow of King's College. Cambridge: The University Press, 1911. Price, $0.40.

Mr. Doncaster has given us a study of heredity based on variations and their causes, a discussion of Mendelian heredity and many of the more important disputed questions. This is followed by a chapter on heredity in man and some of the later theories of heredity.

Sex Hygiene for the Male and What to Say to the Boy. By G. Frank Lydston, M.D., Professor of the Surgical Diseases of the Genito-Urinary Organs and Syphilology in the Medical Department of the State University of Illinois. Chicago: The Riverton Press, 1912.

Dr. Lydston, in this volume, has presented a book which he states in the preface is not intended for reading by young boys, but for those in the high school grades and older. He talks about the general principles of health, gymnastics, etc., with the various methods of instructing the boys in sex hygiene. He devotes a chapter to the Lie of Wild Oats and Regulation of the Social Evil; then he takes up the venereal and non-venereal diseases, giving an honest exposition of these, and points out the methods of the quack and charlatan. The last chapter is a word to teachers and parents, telling them what to say and what to teach the boy.

Infantile Paralysis in Massachusetts During 1910. Reprinted from Monthly Bulletins of the Massachusetts State Board of Health for 1911. Boston, 1912.

Infantile paralysis has been very carefully studied by the Massachusetts Board of Health, and this volume presents the work of these studies, with especial reference to the etiology and method of transmission of the disease. Several maps showing the prevalence and distribution of the disease in the state and in the various cities are also included.

Surgical Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago. April, 1912. W. B. Saunders Co., Philadelphia and London. Price per year: Paper, $8; cloth, $12.

Dr. Murphy has treated especially in this number pathology of bones and joints. Practically two-thirds of the volume is taken up with such subjects as ununited fracture of the tibia, with transplantation of bone, Charcot's ankle-joint, ununited fracture of the neck of the femur, arthritis of the knee-joint, ununited fracture of the humerus, with transplantation

of the bone, ankylosis of the knee, with arthroplasty, and ankylosis of the hip. On account of the vast importance of the pathology of the bones and joints, with especial reference to malpractice suits, this is an exceptionally valuable book. We are pleased to note that our suggestion in the review of the first number has been followed very largely; that is, a note is appended to many of the clinics showing results.

Ophthalmic Myology, a Systematic Treatise on the Ocular Muscles. By G. C. Savage, M.D., Professor of Ophthalmology in the Medical Department of Vanderbilt University. Second Edition. Published by the Author, Nashville, Tenn., 1911.

Dr. Savage has based this work on the muscles of the eye, on an understanding of the axis, which differs materially from the teaching of Helmholtz. Helmholtz taught that the optic axis passes through the center of the cornea, and that the posterior pole would be the center of macula only in ideal eyes. Savage teaches that the center of the macula is the posterior pole and that the optic axis passes through the center of the cornea only in the ideal eye. The difference between the two teachings is fundamental. According to Savage, the so-called "optic axis" of Helmholtz and the "nodal point," together with the "angle gamma," should be forgotten, and the sooner the better. Dr. Savage has written the principles of ocular rotation on this understanding of the fundamental physiology of vision. He has also written the chapters on the various muscular conditions of the eye. The work is very complete, very instructive, and the author seems to have clinched his claim to a fundamental discovery in the science of othomology. Whether the teaching of Savage is accepted or not, this book should be in the library of all oculists.

Friends of the Insane, and Other Essays. By Bayard Holmes, M.D. Cincinnati: The Lancet-Clinic Publishing Company, 1911. Price, $1.

Bayard Holmes is one of our best essayists in matters relating to ideals of the medical profession. This little book includes the essay, 'Friends of the Insane," together with many others dealing with the question of insanity which have appeared from time to time as editorials or special articles in the *Lancet-Clinic*. There are also several essays on educational and social subjects. To those familiar with Dr. Holmes' pleasing style, the mere mention of this work will be sufficient. To others we bespeak it, believing that it will enliven many a passing hour.

Experimental Psychology. By Charles S. Myers, M.D., ScD., Lecturer in Experimental Psychology in the University of Cambridge. Cambridge: The University Press, 1912. Price, $0.40.

This book is one of the "Cambridge Manuals of Science and Literature" series and is written for popular use. Experimental psychology is covered in a pleasing style and with a high degree of minuteness in regard to the experiments on color vision, touch, pain, temperature, ocular illusions, memory, etc.

Tumors of the Jaw. By Charles L. Scudder, M.D., Surgeon to the Massachusetts General Hospital. Octavo of 391 pages, with 353 illustrations. 6 in colors. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, $6 net; half morocco, $7.50 net.

Tumors of the jaw are comparatively rare, but for that very reason should be early recognized and properly treated. For this reason Scudder has published this monograph. The chapters treat of Epulis, Sarcoma, Benign Tumors, Odontomata, Carcinoma. The Diagnosis and Operative Treatment of Malignant Disease of the Upper and Lower Jaws, Tumors of the Palate, Leontiasis Ossia, and Prostheses. Each chapter is properly illustrated, showing the tumors and conditions under discussion in all styles and all forms. The text is most clear and definite giving in detail the early (and later) diagnosis, but not attempting the finer pathological diagnoses. The object aimed at is practicability—to give a diagnosis upon which treatment may be based. The treatment is given in some detail, but technic of operative proceedings is not given, knowledge of that being assumed.

This is a valuable addition to any surgical library.

A Text-Book of Gynecology. By William Sisson Gardner, M.D., Professor of Gynecology, College of Physicians and Surgeons, Baltimore. With 138 illustrations in text. New York and London: D. Appleton & Co., 1912.

The above Text-Book covers briefly all the common diseases of gynecology and many rare ones. As a ready reference it is the best the reviewer has ever seen on the subject.

BOOKS RECEIVED

Transactions of the College of Physicians. Third Series. Vol. XXXIII. Philadelphia, 1911.

The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

Vol. XI BATTLE CREEK, MICHIGAN, SEPTEMBER, 1912 No. 9

ORIGINAL ARTICLES

RECENT ADVANCES IN PLASTIC SURGERY OF THE BONES*

JOHN B. ROBERTS, M.D.
Professor of Surgery in the Philadelphia Polyclinic
Philadelphia

Plastic, or reconstructive, surgery has made many advances since its revival in the first half of the nineteenth century by Dieffenbach and his followers in Europe, and Mütter and his contemporaries in America. These surgeons were preceded in plastic work many centuries probably, for the Egyptian papyrus named after Ebers and attributed to 1500 B. C., is said to mention rhinoplasty performed by flaps. The Hindu specialists made new noses from the frontal tissues before the time of Tagliacozzi in Italy. They replaced the cartilaginous portion, cut off as a punishment for adultery or for other reasons, by a cellular-cutaneous flap turned down from the forehead. Tagliacozzi in the sixteenth century made noses and lips from the tissues of the arm. He thus improved the features of European victims of nasal deformity, resulting from misfortune in war or disease, many years before the time of Dieffenbach.

The history of the development of this branch of our art is as attractive as that of aviation. Both would easily evoke in your minds a pleasure akin to that responding to the touch of a novelist's pen, had I the skill to mold phrases into the pleasing sentences of the trained essayist.

The modern surgeon was finally convinced that cutaneous flaps with pedicles, given new positions in the body, would live and become integral parts of the surrounding tissues. Doubt remained, however, as to the truthfulness of the occasional reports that sliced off noses, ears or fingertips had adhered and lived after being reapplied to the raw surfaces from which they had been severed.

Wolfe of Scotland, however, was able to convince a few ophthalmic and general surgeons that a free flap or graft of skin cut from a distant region, could be successfully used to correct eversion of the eyelid. His method of dissecting up the ectropion, replacing the eyelid and filling the raw gap with a piece of detached skin was often tried; but the operation failed too frequently to become a standard procedure. It only occasionally happened that the graft lived, became united with the

* Address in Surgery at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10, 1912.

surrounding skin of the cheek or forehead and relieved the deformity. It remained for another Scot, Lord Lister, who has only recently died, to show that the failures in Wolfe's method usually occurred, when the operator did not preclude septic contamination of the wound. It was Krause of the continent of Europe, however, who developed and increased the usefulness of the free flap, or graft, of Wolfe by utilizing it in general surgery and subjecting it to the safe surroundings of an aseptic technic.

During the last forty odd years thoughtful men of broad mental grasp have pondered on the fact that skin would survive, when its blood-supply was cut off partially, as in pediculated flaps, or entirely as in Wolfe grafts, could be planted in a new site, and would live. As a result, experimental research and clinical observation proved that other tissues are governed by physiological laws similar to those regulating the cell life and cell death of skin.

Hence we now know that teeth, tendon, blood-vessel, fascia, nerve, cartilage and bone may be shifted from one spot to another with comparative certainty of a preserved vitality. The essential is that septic infection be absent until the pediculated flap or the graft has time to become physiologically one with the surrounding living structures. Under some circumstances even a mild infection may be tolerated without causing entire failure of the plastic reparation. It is better to use the patient's own tissues, for these operations, than those of another person; and tissues of the young answer better than those of the aged. It is possible, however, to get success with tissues taken from another human being, from an amputated limb, or even from a recently dead body. Carrel has found that aseptic tissue preserved by cold storage may be successfully used for grafts weeks after removal from its parent body. It maintains its latent life for a long period. Under these circumstances, therefore, the employment of grafts from the lower animals has gradually been discontinued, as they do not answer as well for man as human grafts.

It apparently has been established that the cells of aseptic animal tissue may continue to grow even when detached entirely from the body. This is accomplished by placing small sheets or blocks of tissue in a suitable aseptic medium, which is contained in a sterile tube and subjected to a required temperature. Horticulturists will see the similarity of these physiological facts with what they have long known and utilized in plant life.

HISTORY OF OSTEOPLASTIC SURGERY

Our interest to-day, however, is to be restricted to a discussion of the plastic surgery of bones. The remarks just made were necessary as a preliminary to that discussion, because bone surgery and the surgery of the soft parts are in essence the same. Bone is hard, to be sure, because of its inorganic constituents.

These are required to give it the resistance and permanent shape, which make the skeleton the protector of viscera, the framework on which organs and other structures hang and the levers, through which efficient movements and locomotion are performed. The lime salts, which give the desired contour and the necessary rigidity to bones, are extracted by a selective influence from the blood; but otherwise the vital processes of growth, repair and inflammation are similar to the same changes in soft tissues. Osteogenesis resides in the lower layer of the periosteum, the marrow, and the soft structures within the Haversian canals and lacunæ. The inorganic portion may be likened to a trellis or a filigree mold, on which, or in which, the osteoblasts which create bone are supported and protected.

To Ollier of Lyons should be given the greatest honor in the field of osteoplastic surgery, because it was his work, and the stimulus which he gave to his immediate colleagues, that established the possibility of using bone in plastic procedures. It is about thirty or forty years since he first gave special attention to this branch of surgery. His interest continued until his comparatively recent death. The great development now seen in bone reparations is merely the march of progress found in all plastic operative work. His early methods have been modified as a result of increasing knowledge; but his labors were those of an earnest, sincere, successful and far-seeing pioneer. He has had worthy followers in Macewen, Tomita, Grohe, Morpurgo, Laewen, Murphy, Janeway, Albee, Hibbs, Axhausen and others in bone surgery.

When a piece of bone is transplanted, its raw surface should be placed and maintained in contact with living bone. This is said to make the probability of its living and growing much more certain than if such permanent contact is not secured. The actual contact of the two portions without the intervention of the fibrous periosteum may be kept up by nailing or suturing. This phase of the desired osteogenesis resembles the regenerative process in cerebrospinal nerves after degeneration suture or grafting.

While the new osseous tissue is being deposited after bone grafting, the old bony tissue in the graft probably is being absorbed. Consequently when the gap has been completely filled by new bone, as a result of what may be termed molecular deposit, the model or framework has really been removed by a molecular absorption. The latter process has gone on contemporaneously with the former. The result is a new model replacing the old, but retaining the original contour.

STRATEGIC OSTEOPLASTY

Osteoplastic procedures are strategic and reconstructive. The former term describes those operations in which bone is displaced temporarily, in order that the surgeon gain access to organs behind a bony wall or an obstructing barrier. When a rectangular section of the cranium is cut and turned outward on a musculocutaneous hinge, like a trap-door, to permit the removal of a subdural clot or a brain tumor, and is replaced after that task has been accomplished, a strategic osteoplastic operation has been performed. Such also are the temporary resections of the zygoma to permit excision of the spheno-palatine ganglion for neuralgia of the second division of the trifacial nerve and of the squamous portion of the temporal bone to obtain access to the Gasserian ganglion or the sensory root of the same cranial nerve.

Some nasopharyngeal tumors are only removable after temporary displacement of the halves of the hard palate or of the bones and cartilages of the nose. Suture of the pericardium and heart may demand for its proper and rapid performance a strategic trap-door displacement of the cartilages of several ribs, with perhaps some parts of the ribs also. Temporary costal resection is needed to permit operation on the thoracic esophagus. A similar displacement of the laminæ of the vertebræ is at times adopted as a step in the removal of a tumor of the spinal marrow or its membranes.

These operations are, as is readily seen, of the nature of the pedunculated flap method of using cutaneous tissue for the repair of deficiencies in the skin. They therefore were found to be practical aids in surgical interventions, and were accordingly accorded a place in the technic of bone surgery earlier than the use of free bone flaps or grafts.

RECONSTRUCTIVE OSTEOPLASTY

The reconstructive plastic use of bone differs from the strategic in that the object of the operator is to repair or build again a bony region, which has had its efficiency lessened or destroyed by injury or disease. The most familiar illustration of this surgical activity is the treatment of fractures. Its application to open comminuted fractures is probably as old as surgery itself. It is likely that in the earliest ages a bone broken into several pieces and exposed to view had its fragments readjusted by the would-be curer of the injury in the manner suggested by experience as effectual in remodeling shattered pottery or a broken tree branch. It was seldom that success was obtained, for septic contamination, suppuration and necrosis were until late years the fate of open fractures. The axiom of treatment therefore prior to the antiseptic period was that fragments devoid of periosteum should be removed, and that those with adherent periosteum might be retained, though there was but small hope of preventing death of these pieces.

Lister's success in combating septic infection of wounds soon led him to apply his methods to open fractures; and the osteoplastic cure of fractures was founded. Thus came the impulse which made bone-grafting a reasonably certain operation and has made possible almost incredible bony reparations.

An early step in this direction was the replacing of the disk of bone cut from the cranium after exploratory trephining. With what doubt many surgeons still in practice first dropped the button of bone into the hole made in the skull and sewed the scalp over it. How delightful it was to discover that in a few weeks the brain case was as solidly repaired as before perforation, instead of being left with a fibro-membranous imperfection at the seat of operation. A succeeding step was replacing fragments after relieving depressions from comminuted fracture of the cranium.

Later, bone flaps and bone grafts were tried, when the surgeon needed to work behind bony impediments or wished to replace loss of bone so as to gain a requisite stability or rigidity.

Probably the latest application of osteoplasty in brain operations is McArthur's successful attack on the hypophysis, as the pituitary body is now called, by a strategic osteoplasty of the frontal bone. He cuts out a section of that bone in the region of the eyebrow, including a part of the roof of the orbit, operates aseptically on the hypophysis and then replaces the bone. The patient subsequently shows only a slight scarring in the middle line of the forehead and within the eyebrow.

This epitome of the history of osteoplastic surgery brings us to a point where it is proper to mention illustrations of other conditions amenable to osteoplastic therapy.

CORRECTION OF DEFORMITIES

Deformities of the nose, due to congenital defects, injury or syphilitic necrosis, may require rigidity in the tegumentary flaps used for the rhinoplasty. This can be given by pedunculated osteoplastic flaps cut from the forehead, by cartilage or bone grafts taken from the ribs, or by bone grafts chiseled from the tibia. If this choice does not satisfy the operator, he may use a finger of the patient to make the new nose firm, or he may graft a toe on the patient's hand and then repair the nose by placing the hand against the face and inserting the transported toe into the nasal defect. Here it will become attached in two weeks.

What shall be done for a deep ugly cicatricial furrow in the frontal region, caused by previous necrosis of the anterior wall of the frontal sinus? Open the skin with

a sharp knife, set a properly shaped piece of the tibia in the frontal pit and sew up the skin. A smooth comely forehead with but a slight linear scar results. A similar procedure may be used to fill the depression left behind the ear by a complete mastoid extirpation. Suppose a surgeon is obliged to remove much of the upper jaw for tumor, and must excise the bony floor of the orbit. How will he give support to the eyeball? He may saw a piece of bone from the coronoid process of the lower jaw and, leaving some of the temporal muscle attached, twist the bone flap around under the eye, so as to act as a substitute for the orbital floor.

After removal of the ramus of the mandible for tumor or the loss of a portion of that bone from gunshot wound, a new section of jaw may be obtained by transplanting a piece of tibia, rib or clavicle into the gap. If the clavicle is employed, it may be cut as an osseocutaneous flap with a pedicle. A piece of ivory of the proper length imbedded in the aseptic scar tissue may answer, perhaps, to hold the two portions of jaw in position; but living bone of the patient himself would be more likely to cause the formation of a new jaw.

Almost a miracle seems to have been accomplished by Esau. He operated on a patient with deficient prominence of the chin, due to temporo-mandibular ankylosis in childhood. First he made new joints by the ordinary arthroplastic methods. Then he sawed the lower jaw into two halves at the symphysis. At the section made he pulled the two halves apart and inserted twenty centimeters of rib, abutting at each end against the sawed surfaces of the lower jaw. The piece of rib was fractured so as to bend at its middle to give the curved mental prominence. This bone graft restored the lower part of the woman's face to the normal shape in a fair degree.

The reference to ankylosis and its cure by arthroplasty in Esau's case brings to mind the osteoplastic restoration of the larger joints possible by osteoplastic methods. Surgeons now treat stiff knees, hips and elbows, resulting from fractures or osseous inflammations, by chiseling away the bony adhesions or irregularities and turning fibro-fatty flaps in between the ends of the bones. Thus an almost normal mobility is secured and a much more stable joint made than by the former resection method.

Lexer, in Europe, and Vaughan, here in America, have detailed cases showing that whole knee-joints may be taken from amputated limbs and placed between the sawn ends of the femur and tibia, after a total excision of the knee, with a fair prospect of obtaining a movable articulation. The hinge joint from the recently dead limb is nailed or wired in position and acts as a mold for the deposit of new bone, derived from the blood by the action of the bone-forming cells in the living bone.

When a flail-like knee-joint is useless for locomotion, it may be made rigid by mortising the patella denuded of periosteum and turned on its edge into the joint like a dowel. This solidifies the joint and gives the stiff and firm synostosis desired.

Habitual dislocation of the patella may be prevented by stitching the detached tendon of the semitendinosus to a strip raised from the inner border of the patellar ligament.

The necrotic and infected bone from osteomyelitis, destroying the shaft of the tibia or radius for example, may be removed by scraping, and a long graft, cut from the other tibia or a fibula, may

be inserted between the two epiphyses. A new tibia will thus be formed. If the tibial shaft is lost by fracture or otherwise, the surgeon may utilize the fibula as a substitute. It will if compelled to bear the weight of the patient in walking become hypertrophied to bear the strain.

In a case of congenital absence of the shafts of both radiuses seen a couple of years ago, I have proposed to use the fibula to take the place of the radius. This could be done by using the fibula as a graft or taking a graft from the tibial crest. A fibular pedunculated flap might be used instead of a graft.

In a few cases a finger has been supplied by grafting the great toe on the hand. Many fingers, the result of accidental wounds in factories, are undoubtedly sacrificed by inexperienced operators, because of not using plastic or osteoplastic methods in an effort to preserve portions of these digits.

One of the latest novelties in this line of surgery is making the posterior portion of the vertebral column rigid in tuberculous spondylitis by producing a continuous synostosis of the spines and laminæ. This osteoplastic operation is better than supporting the bending spine with external gypsum jackets or spinal braces.

Hibbs does it by fracturing the spinous processes in the diseased region at their bases and bending them downward to bridge the gaps between the successive vertebræ. Albee has accomplished a similar result by using strips from the tibia laid in grooves previously channeled down the back of the spinal column. This resembles the inlaying of furniture.

Plastic methods have done a great deal to improve the results in fractures, and are well illustrated in the technic of fixation by screws, nails and plates. Recently Murphy has reported a case in which he nailed the aseptic head of the humerus in place after its removal in a bad fracture, and made practically a graft of it. The same operator tells of having reconstructed the hip-joint by cutting a section of the great trochanter off and nailing it in the position of the femoral head to act as an efficient substitute for that part of the articulation.

These various uses of bone flaps, bone grafts and bone substitutes are a rich development of the art of surgery. Pirogoff's osteoplastic amputation of the foot was a fore-runner of these operations. The names already mentioned were worthy followers of that Russian surgeon.

Will man ever be able to reproduce on his body an entire limb like a crab? Perhaps so. Morgan thinks that man does not regenerate an arm or leg as crabs and some vertebrates, because his tissues regenerate with different degrees of rapidity. The bones which are important in such complex reformations generate very slowly, but the vessels, nerves, muscles and skin rapidly. There is, therefore, no tendency to synchronous reproduction of the lost limb. Lizards can reproduce a tail, but not legs. An imperfect foreleg has occasionally been seen in an adult frog by Morgan, who has studied these physiological questions with care.

May not the time come when the surgeon will regulate these processes in the same manner as the other human functions, which gradually have come under control?

313 S. Seventeenth Street.

WHAT IS "EPILEPSY"?*

CARL D. CAMP, M.D.
Ann Arbor, Mich.

An excuse for asking the question contained in the title of this paper will be apparent to anyone who has studied the voluminous literature on epilepsy which dates from the earliest medical writings, or who has been confronted with cases of the disease. There is a necessity for a definition which shall be really definite and concise, yet include all cases of epilepsy and exclude all else. I suppose that most medical men of experience have fairly definite ideas on the subject; the real difficulty consists in putting these ideas into words and including in such a definition those rarer types, though well recognized, such as psychic epilepsy, Jacksonian epilepsy, sensory and sensorial epilepsy and epileptic equivalents, so-called.

NECESSITY OF PROPER DEFINITION

The medical and especially medico-legal importance of such a definition is obvious. In reference to the former, it is unnecessary to call the attention of medical men to the great desirability of an accurate diagnosis as a preliminary to treatment; as regards the medico-legal and social aspect of the question we may call attention: first, to the frequency in which epilepsy is brought forward as an excuse for crime; second, to the fact that, at a recent meeting of the American Neurological Association, the president, Dr. Stedman, in his address advocated that all employees of transportation services in positions of responsibility should be certified as free from this disease for reasons that are apparent; third, that with the passage of employers' liability laws in many states it will be necessary that employers more carefully guard against accidents that may take place in their mills or factories through the presence of epileptics; and, finally, to the proposed laws to sterilize epileptics in the interest of eugenics which also necessitates a careful consideration of this problem.

First we must consider whether epilepsy is a disease, *sui generis,* or a morbid condition, the result of various factors. It is my opinion that it is the latter. I hold this opinion not only as the result of clinical observation and pathological study, but also because I believe that by taking such an attitude we open up a field for further investigation which will be most fertile in prophylactic and therapeutic results, which, after all is the aim and end of medical endeavor.

ESSENTIAL CHARACTERISTICS OF EPILEPSY

Authorities differ widely as to what is the essential characteristic of epilepsy. By some the unconsciousness is regarded as the principal phenomenon, the convulsive movements, etc., as epiphenomena. Such a position would exclude many of the cases of so-called Jacksonian epilepsies and also would not include those patients undoubtedly epileptic who suffer only from the aura or partial epilepsies. On the other hand, instances of recurring attacks

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

of unconsciousness are not necessarily epileptic in origin. The definition of Turner, that "epilepsy is a condition characterized by recurring attacks of unconsciousness, frequently accompanied by convulsive and other phenomena," will not answer. In this connection I might refer to a paper by Friedman on "An Investigation of the Non-epileptic Attacks of Unconsciousness in Childhood," to narcolepsy, first described by Gelineau, and of which I have reported a striking case and observed several others; to hysterical attacks, and to the psychasthenic attacks simulating epilepsy, described by Spiller and others, all instances of attacks of unconsciousness non-epileptic in character. Equally objectionable is the definition which gives first importance to the convulsive phenomena, and on much the same grounds; it does not include all cases nor does it exclude convulsions non-epileptic.

It has been determined in recent years by clinical observations and by experiment that the phenomena which we consider essentially epileptic, i. e., a certain character of convulsions, certain types of sensory disturbance and disturbance of consciousness can be produced by irritation of the cerebral cortex, the character of the result depending on the part of the cortex irritated rather than on the kind of irritation. Actually, phenomena generally recognized as truly epileptic are only such as might result from irritated conditions of a part or parts of the cerebral cortex and entirely without any voluntary control. It is true that some epileptics can abort attacks by resorting to various devices, such as drawing a tight band around the extremity in which there is an aura, taking a deep breath, etc., but the result is the result of the act, not the simple result of the will of the patient. The patient may be fully conscious, but has no power to control, voluntarily, in the slightest degree, the course of events making up the attack. It may be motor, sensory, affecting the special senses as an hallucination, or the higher cortical centers leading to so-called psychic epilepsy, automatism, epileptic furor, narcolepsy and the like. The really essential feature of the epileptic attack is the absence of any mental influence in the causation of the condition. In most epileptics the phenomena of convulsions are primitive, flexion and extension movements, etc.; in some, however, complicated acts are carried out automatically. It should be remembered, however, that even the most complicated acts which are truly epileptic are automatic, purposeless and motiveless; that an epileptic commits a crime is no reason for considering the epilepsy as an excuse unless it can be shown that in doing this act, the criminal acted in a manner similar to that which would be taken by a mechanical automaton devoid of feeling or reason.

DEFINITION

A definition which I suggest tentatively is: "Epilepsy is a morbid condition characterized by attacks of the phenomena of abnormal hyperfunction of some or all parts of the cerebral cortex, frequently accompanied by unconsciousness and never under the control of the will or volition."

It should not be understood that a disease of the cortex is present or that there would be any demonstrable changes there, and it is for this reason that I object to the definition of Dr. M. A. Starr, that "epilepsy is a disease of the brain characterized by attacks." We have no definite evidence that the brain is diseased in all cases; in fact, pathological studies show that demonstrable organic changes may be entirely absent from the cerebral cortex of epileptics. It follows from Starr's definition, that the prognosis is hopeless and his clinical experience reflects this atti-

tude. It is the *phenomena* of abnormal hyperfunction that we are sure of; even the question whether abnormal hyperfunction exists or not is not certain. This we know: mechanical, electrical or chemical stimulation of the cerebral cortex produces certain characteristic phenomena depending on the part stimulated and these phenomena, not under the control of the will, are similar to the phenomena of an epileptic attack.

ETIOLOGY

There is a general custom of dividing epilepsies into two classes: idiopathic and symptomatic; in my opinion such a division is pernicious and reminiscent of the days when epilepsy was regarded as demoniacal possession. Undoubtedly there are individuals who have epileptic attacks without demonstrable cause or in whom the apparent cause is such that it would not affect the average person in such a manner, but this constitutional tendency to convulsive seizures, an exaggeration of a normal cerebral function, cannot be called epilepsy until it is made manifest by seizures and the seizures have a cause. It would seem most probable that the apparent hyperirritability of the cortex was in reality a normal irritability with a deficient inhibition, and that this lack of the inhibition may be due to a lack of development of the inhibitory mechanism, which is the last and most highly developed part of the brain, or to an impairment of this inhibitory mechanism by disease, toxins, etc.

The statistics as to the heredity of epilepsy vary widely with different authors. As a rule, the more diligent the physician in looking for the cause, the lower the percentage of idiopathic and hereditary cases becomes. The mass statistics collected by observers medically untrained is almost totally valueless.

In my opinion epilepsy depends on a change in the normal relation of irritability and inhibition in some or all parts of the cerebral cortex, the irritability being relatively increased. This change may be more or less permanent as the result of some congenital defect, injury or disease, and then any slight toxic or reflex cause produces an epileptic attack or the toxic or reflex conditions may, of themselves, be so pronounced that they bring about this change. The list of these causes is long, many of them amenable to treatment. We have but scratched the surface in our investigations of the bodily metabolism and the mechanism of the reflex activities of the nervous system. It behooves us, therefore, to regard every case as a great opportunity to cast some light on these problems and to confer a lasting benefit on the patient.

I find that the causes of epilepsy may be classified as follows:

A few cases in which the condition, i. e., a lack of development of cortical inhibition, is hereditary. In these cases the heredity follows the Mendelian law, there are usually other defects present, and the attacks are brought on apparently by the normal physiologic processes of the patient.

In a much larger number of cases, the disease, apparently hereditary, is in reality a congenital cerebral defect due to syphilis or to some habit or condition of the parent which impairs the development or nutrition of the brain of the offspring. These cases do not follow the Mendelian law, are not hereditary in a true sense of the word but congenital, although the attacks result from banal causes. Some of these patients may be successfully treated; it depends on the degree and kind of cerebral injury.

Another class are those who have brains damaged by injuries or disease at birth or afterwards. They are in practically the same condition as those in the previous class; their cure depends on a recognition of the causal factor and its removability

by medical or surgical means. The effects of injuries, infectious diseases or chronic circulatory changes on the brain are productive of the same condition in adults and constitute still another class of cases; the treatment and prognosis would be the same, however, as if it occurred in infancy, namely, the discovery of the cause and its removal if possible. The fact that the simple disturbances in cerebral circulation may bring on epileptic attacks has been demonstrated experimentally in animals. I have seen a number of epileptics in which I have had good evidence for the belief that valvular heart disease was the cause, and the occurrence of epileptic attacks in connection with "heart block" is frequently described.[1]

Another class of cases are those due to a toxemia of some kind or kinds. No one, so far as I know, has ever demonstrated a toxin causing epilepsy, but many cases have been observed in which the elimination of a certain toxic factor or the correction of certain metabolic errors has definitely stopped the attacks. Such a case, for instance, as one in my practice in which bromids, diet, etc., and general hygienic measures met with poor success, but in which the attacks ceased as soon as the patient began taking an enema every other day. I have observed several cases in which attacks were stopped by the adoption of a purin free diet, and so on. Whether in these cases the toxin is a changed internal secretion, or some inorganic substance in the blood, or whether the attack is an expression of so-called anaphylaxis, is unknown. All such theories have their advocates, but definite proof of the nature of the toxin is lacking. All we know is that a toxic substance may act on a normal brain, and still more on a damaged one, to produce epileptic attacks, and that we can in some cases remove this factor and cause the attacks to cease. Such cases as those reported by Meyers,[2] of epilepsy in relation to thyroid disease are very suggestive in this connection.

The last class of cases to which I call attention are those called reflex. A long time ago Brown-Sequard showed that injuries to the spinal cord in animals produced in those animals epileptic attacks, later on. Clinical observations show that epileptic attacks may be caused in man by the same factor. Furthermore, it has been shown that diseases or injuries in various parts of the body may produce, apparently, the same results, and the attacks cease when these are properly cared for. For instance, the observation of Randall on otitic epilepsy, i. e., epileptic attacks caused by inflammations of the middle ear, or the impaction of foreign bodies in the external ear, and ceasing on the removal of the cause. Numerous examples of epilepsy due to eye-strain, irritating conditions in the nose, impacted and unerupted teeth and other sources of reflex irritation are on record.

These reflex causes are not confined to conditions about the head, as witness the case reported by Berger[3] of epileptic seizures from appendicitis, and Axtell's "Acute Angulation and Flexure of the Sigmoid as a Causative Factor in Epilepsy."

In conclusion, I suggest that the time has come when a consensus of medical opinion should furnish a definition of epilepsy that should be clear and comprehensive, yet go no further than the observed facts will warrant. This is necessary for social and medico-legal reasons, but is also necessary in order that we may understand that epilepsy is not a *"morbus caducus sive sacer"* or *"morbus divinus,"* but a morbid condition which it is distinctly "up to the doctor" to treat.

924 Baldwin Avenue.

1. Rubelcava-Rivista de Medicina y Cirugia, Vol. xvi, No. 7, and others.

2. Monthly Cyclopedia and Medical Bull., xv, No. 5.

3. Medizinische Klinik, Bd. viii, No. 7.

OUR NEW SECTION*

ROBERT W. GILLMAN, M.D.
Detroit

We are to be congratulated, one and all, in "coming into our own," through the separate formation of the Section of Ophthalmology and Oto-Laryngology by the Michigan State Medical Society.

To be your chairman I consider a special honor; and to act as inaugural chairman is an added distinction which I shall always proudly cherish.

Although we find ourselves in a separate section of the state medical society, I know that I voice the feelings of all here when I say we intend to run an "open shop." Every member of our mother society, whether doing special or general work, will be more than welcome to be present and to take part in our deliberations and discussions.

Nothing can be more disheartening to the reader of a carefully prepared paper than the usual reception accorded by the general society to the author of an article on ophthalmology and otology.

Some years ago I prepared a paper on the use of the electro-magnet in ophthalmic practice which I read at the general meeting of the Michigan State Medical Society in Lansing. I had toiled for several days in the preparation of the article. The meeting was held in the Opera House and nearly, if not all, the seats were filled. Towards the end of the morning the title of my paper was announced by the chairman. This was followed by an immediate stampede for the street, and when the exodus was stopped there were exactly twelve in the audience, six of them consisting of my personal friends. I hope never again to suffer the chagrin and mortification of this experience; and yet I know that nearly all readers of papers dealing with the eye or ear who have attempted to present them before the surgical section, where they have always been classed, have shared the fate here described.

It is my firm belief that the greatest benefit to our state medical society will result through the formation of this section. More time and space in our programmes can be devoted to general surgical work, and an equal portion to ophthalmology and oto-laryngology, thereby enriching both sections. Now and then, as in the American Medical Association, members of the different sections will intermingle their papers in symposiums. We can, on these occasions, all meet together and be mutually interested and instructed.

Although the first object of this section will be the furtherance of scientific work, we must not overlook opportunities which will bring us closer together, thereby promoting a spirit of good-fellowship which will reflect itself in the life and work of the section.

In this connection I would suggest that our programmes be not crowded with papers so that we would have to use up every minute of time disposing of them. Our meetings should commence promptly at the advertised time and end at a suffi-

* Chairman's Address Before the Section on Ophthalmology and Oto-Laryngology, Michigan State Medical Society, Muskegon, July 10-11, 1912.

ciently early hour so that the audience may not become tired or bored, or, for fear of being late, have to rush to luncheon or dinner, as the case may be.

It is of vital importance that all the papers allotted to certain sessions be disposed of at that particular session, not allowing the meetings to drag so that we find a morning or an afternoon session with unfinished business, forcing a postponement of the reading of a certain paper or papers, to the following session. Such postponements work immense injustice both to the authors of papers and the members of the section, and even the general society. If all the papers are read on scheduled time, a member of the state medical society can arrange his plans ahead so that he can go from one section to another, listening to the papers that especially appeal to him.

Our secretary, Dr. Morse, has been most energetic and successful in procuring a valuable program of papers. Our distinguished guest, Dr. Otto Freer, of Chicago, we proudly welcome and know he will add greatly to the success of the first meeting of the Section of Ophthalmology and Oto-Laryngology of the Michigan State Medical Society.

And none of you who are present will, I am sure, be wanting in cooperation, doing your part in contributing of your best to make our section from its very initiation a brilliant success.

We must all keep our eyes and ears open, so as to add from time to time some important fact or discovery to the beloved department of science to which we have devoted our fortunes and our lives.

107 W. Fort Street.

HEALTH CONFERENCE IN MICHIGAN

A recent issue of *Public Health*—the bulletin of the Michigan State Department of Health—contains a report on the health officers' conference held at Ann Arbor, January 30-31. This annual conference of the local and state health officers has come to be an established custom in Michigan. Water-analysis, the need of a state hospital for advanced cases of tuberculosis, water-purification, certified milk, garbage-disposal, hotel-sanitation and occupational diseases were discussed before the conference. While it is important from a scientific standpoint, perhaps the greatest practical value of such a conference is that it brings together, and makes mutually acquainted all of the men in the state, who are working directly on public health problems. Perhaps the most serious flaw in our public health work so far has been the lack of close cooperation and mutual understanding between the different detachments of the army that is carrying on this fight. Lack of organization and cooperation means duplication of work with waste of money and effort. Michigan and Kansas are striving to unite the health-workers of the states into a compact and effective body which will render more effective warfare against disease than can the isolated town and county health officers found in too many of our states.—*Journal A. M. A.*, July 20, 1912.

A SHORT CUT TO FAME

"Don't slave. Hang out your shingle within a year. Are you one of the thousands of intelligent men and women who see nothing in the future but a life of toil, even drudgery? Are you ambitious and energetic as well as intelligent? Then chiropractic is the life work—the profession for you. You can learn chiropractic, the new science of drugless healing, in twelve months of study and at the end of that time hang out your shingle and reap the profits and the social position of a lucrative and honorable profession."

Foregoing announcement is made in the daily papers by Ross Colleges of Chiropractic, located at Detroit, Mich., and Fort Wayne, Indiana.—What a pity we spent so many years studying medicine!

MAXILLARY SINUSITIS*

BENTON N. COLVER, M.D.
Battle Creek, Mich.

FREQUENCY

Both acute and chronic maxillary sinusitis occur more often than is commonly thought by the general practitioner, and indeed by some rhinologists. Acute inflammation of a non-suppurative type affecting the maxillary, in common often with other sinuses, complicates a large proportion of all severe attacks of acute rhinitis. The pain, woodeny voice and stuffed feeling of the head subside with the original inflammation, often without any medication for the relief of pain. Some cases go on to suppuration. In these cases the throbbing pain and marked tenderness of the teeth, cheek and eye-ball on that side demand analgesics unless promptly relieved. If the pain be palliated a large number of these cases will recover spontaneously (Hajek), but a certain proportion of them will subside symptomatically while drifting in reality into the class of chronic empyemas. Both in the acute and chronic stage the pains may be attributed variously to "the poisons from the cold," carious or badly filled or crowned teeth, eye-strain or neuralgia.

There are, besides these cases originating by extension of infection from the nose, those of dental origin. There may have been a history of prolonged tooth trouble affecting usually the second bicuspid or first molar going on to alveolar abscess or crowning. Then as a complication the antrum is infected. Or it may be that a carious tooth without warning results in the same way. Pyorrhea alveolaris, careless extraction or putrescence of the pulp without caries evident to observation have all been noted as antecedents of infection of the maxillary sinus.

There are still other cases in which the maxillary sinus by virtue of the location of its ostium in the hiatus semilunaris acts as a reservoir for the secretions from the overlying sinuses.

A certain number of the acute non-suppurative cases instead of recovering or progressing to the stage of suppuration continue as chronic non-suppurative sinusitis. The acute stage is produced by the swelling and congestion incident to the rhinitis, which occludes the ostium and congests the antral mucosa. When the rhinitis subsides the drainage and ventilation of the sinus may not be reestablished or so insufficiently that a chronic congestion and serous exudation is produced. This may remain as a serous exudate or may at some future time be infected and terminate in chronic empyema.

Altogether I am confident that there are a large number of unsuspected cases of chronic maxillary empyema and chronic non-suppurative maxillary sinusitis going about untreated or improperly treated.

METHODS OF DIAGNOSIS

Clinical Symptoms.—In the acute non-suppurative cases the pain may not be very severe. In the suppurative, however, it is as a rule intense and often throbbing. There is marked tenderness of the teeth underlying, of the eye-ball and of the cheek

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

over the canine fossa. There is sometimes redness and not infrequently edema of the cheek.

In the chronic cases both suppurative and non-suppurative, the localizing symptoms may be absolutely absent. There may however, be tenderness of the teeth, cheek and eye-ball. There may be pain affecting various branches of the fifth nerve of the same side, felt in the auricular, temporal, frontal, parietal, or even occipital regions. There may be a nasal discharge or droping into the pharynx of a serous or muco-purulent fluid.

Intranasal Examination.—In the suppurative cases an intranasal examination may reveal pus in the middle meatus. There may be a nasal discharge or dropping into the pharynx of a serous or muco-purulent fluid. In chronic cases polypi may be found originating in the hiatus semilunaris and under the anterior end of the middle turbinate. Not infrequently shortly after shrinking the middle turbinate the patient notes quite a free discharge either of muco-pus or in the non-suppurative cases of serous fluid. The patient may also note an amelioration of symptoms as a result.

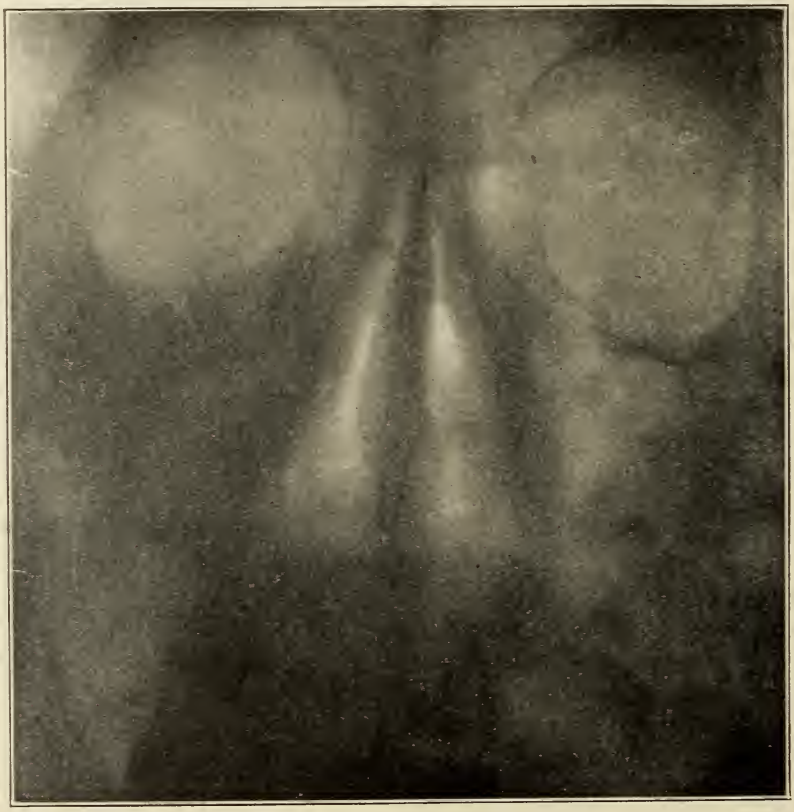


Fig. 1.—Plate A shows a case of acute suppurative maxillary sinusitis of the right side.

Transillumination. — By this means a shadow may be usually demonstrated in the acute cases and quite often in the chronic. This measure should be employed quite routinely in office examinations. The absence of positive evidence by this procedure should not, however, defer the examiner from further search if the clinical picture is at all suspicious.

Skiagraphy.—In acute cases this measure is not needed as a rule (see Plate A). In the chronic, or when sinusitis is merely suspected, a series of three plates to examine all the sinuses should be insisted on if at all possible (see Plates B, C. and D). In chronic non-suppurative cases the skiagram may show shadow, though irrigation will not reveal the presence of pus or mucopus (see Plate E). Stereoscopic plates taken laterally will localize the sinuses affected even better than single lateral views taken from each side of the head.

Fig. 2.—Plate B shows the maxillary and ethmoidal cells to best advantage.

Exploration.—This may be done through the normal ostium, via the pars membranacea by incising the same, or through the thin osseous wall under the anterior end of the inferior turbinate. Personally, I prefer the latter. It is so simple and reliable that it should be a very frequent office procedure. After anesthetizing the anterior end of the inferior turbinate and the wall behind it a Krause needle can easily be pushed into the antrum. In no case does it require more than a few light taps of the mallet. The pain experienced as the needle passes in is due to the sensitiveness of the antral mucosa. This is the same whether the middle meatus or inferior meatus is used as the approach. In the acute cases the pain of puncturing the inside mucosa is quite sharp, but in normal antra, or in those chronically affected it is very slight. On succeeding days the same opening through the thin shell of bone can be utilized if care is taken in directing the needle point accurately. After inserting the needle, air should be forced in to establish the presence of the needle in the antrum and open the exit by way of the ostium and hiatus semilunaris. Irrigation with warm normal salt solution is very grateful in the acute cases and in any case positively diagnostic as to the contents of the sinus. Andrews maintains that no fluid should

be irrigated through the sinus, but that a stream of air under 20-25 pounds pressure is sufficient to empty the sinus and should be used both diagnostically and therapeutically.

RELATION TO OTHER SINUSES

It is essential, where no radiogram has been made, to determine whether the pus in a chronic case is being produced in the antrum or whether the antrum is acting merely as a reservoir for the sinuses above. This may be ascertained by thorough antral and nasal irrigation followed in a half or three-quarters of an hour by a repetition. In case a quantity of muco-pus is obtained on the second irrigation it is evident that this cannot have been so soon secreted, but must have been poured down from the overlying cavities.

TREATMENT

The course to be followed depends on the duration of the disease, the severity of the symptoms, the character of the pus, the progress made under milder procedures and the social position and inclination of the patient.

Inasmuch as blocked ventilation and insufficient sinus drainage determine a chronic non-suppurative sinusitis and, by lowering the local mucous membrane resistance, may induce infection and empyema, it is always desirable to correct any intranasal deformity. Of course this is frequently not possible at once, but must be kept in mind as fundamentally important.

Irrigation by the same procedure mentioned under the diagnostic measures is in all cases to be tried first. To enter the

Fig. 3.—Plate C shows the frontal sinuses particularly well.

antrum via the ostium or to open into the antrum with a curved knife through the pars membranacea for catheterization is more difficult and no more efficacious. In fact, the low position of the needle puncture for the inflow and the free ostium for the outflow have a distinct advantage over using the upper route for both inflow and outflow. In acute cases I have used at least one quart of warm normal salt solution to irrigate. The second irrigation should be done twenty-four hours later and the succeeding treatments at two-day intervals. When the fluid milky pus begins to change to a muco-pus it is evident that the irrigation is overcoming the inflammation. Finally there appears at each irrigation one globule of cloudy mucus which is forcibly popped out of the ostium by the hydrostatic pressure. After one or two such findings the solution is sure to be absolutely clear the next time. From two to six treatments usually are sufficient.

In chronic cases, even of long standing, such irrigations greatly decrease the purulent secretions. In some cases the instillation of a drachm or two of fresh argyrol (15 per cent. solution) into the sinus after cleansing seems to help in the restoration of the mucosa. When the pus continues to show small flocculi after a month or six weeks it is evident that pathological changes have occurred in the antral mucosa which only free drainage and possibly even more drastic surgical attention will relieve.

Fig. 4.—Plate D shows the lateral view of the sphenoidal and frontal sinuses and the anterior and posterior ethmoidal cells.

If the above treatment is not successful a radical operation to insure free intra-

nasal drainage must be done. The operation I have found most satisfactory and easily applicable is that described by Skillern similar to the Canfield-Ballenger operation.

1. Anesthetize the anterior portion of the inferior turbinate, inferior and middle nasal passages, and septum with the 20 per cent. cocain-adrenalin solution.

2. After thoroughly cocainized, inject a 1 per cent. solution of cocain and adrenalin through the nose directly in front of the anterior attachment of the inferior turbinate subperiosteally into the canine fossa.

3. Make needle puncture and irrigate antrum.

4. Make an incision from the anterior attachment of inferior turbinate extending well down into the floor of the nose. This incision should sever all tissues down to the bone.

5. After controlling hemorrhage with adrenalin tampons a small Freer elevator is used to elevate the periosteum from the anterior antral angle both externally toward the canine fossa and internally until a sufficient portion of the bone is exposed.

6. The antrum may now be opened either with a bayonet chisel having a concave cutting surface by applying it first above and then below and removing the loosened bone with strong forceps or better with an electric trephine especially adapted for the purpose. If the trephine is used it may be necessary to make several drillings in order to obtain an opening of sufficient size.

7. Pack a thin strip of gauze saturated in the strong cocain-adrenalin solution into the antrum and allow it to remain ten minutes. This not only anesthetizes the mucosa, but by its hemostatic qualities clears the cavity of blood and permits a much more satisfactory inspection of the interior.

8. Introduce an ordinary hard rubber ear speculum into the opening and thoroughly inspect the antrum for polypoid membrane, necrosed spaces, etc. This procedure can readily be accomplished if sufficient bone has been removed.

9. Introduce a curet and remove all portions of diseased mucosa, not overlooking the anterior-superior angle which can be reached by a right angle curet.

Fig. 5.—Plate E is a case of chronic non-suppurative maxillary sinusitis. Based on this plate, a tentative diagnosis of chronic empyema was made. Irrigation, however, showed that the sinus did not contain pus or mucopus.

10. Again inspect the interior of the sinus using cotton pledgets dipped in adrenalin whenever necessary and if it appears clean, irrigate and pack loosely with iodoform tape. The entire procedure can usually be accomplished in thirty minutes with very little inconvenience to the patient especially if the electric drill is used. Occasionally some edema over that portion of the face follows but it is painless and disappears within twenty-four hours.

After treatment.—The gauze is removed in forty-eight hours; the cavity irrigated and half the original quantity of iodoform tape reintroduced. In two days this is permanently removed, subsequent treatments consisting of irrigation, drying and insufflation of iodoform or any other suitable antiseptic powder.

Advantages.—1. The sinus can always be inspected by anterior rhinoscopy and the progress of healing noted. 2. The drainage is at the lowest possible point reached through the nose. 3. Local applications can be made to diseased areas resisting treatment. 4. The inferior turbinate is preserved in the entirety. 5. The patient can easily carry on self-treatment in the absence of the physician.

If this fails the Kuster operation for complete removal of the anterior wall is indicated, whereby all portions of the sinus can be inspected and treated.

Complete removal of the antral mucosa or too radical curettage is to be condemned. After free drainage is established a quite diseased mucosa will often tend to return gradually to normal. If the discharge continues for some time autogenous vaccines should be tried.

Fig. 6.—Plate F shows the maxillary sinuses in Case 75596—empyema on right.

REPORT OF THREE CASES WITH RADICAL OPERATION

I am indebted to Dr. J. T. Case, Radiologist of the Battle Creek Sanitarium for the radiograms accompanying.

Case 1.—A young unmarried American woman, aged 31, referred by Dr. B. E. Moshier, July 6, 1911.

History.—Family and personal history negative up to 7 years ago. At the age of 24 she had influenza which lasted quite a while and

left her with a cough. She has been troubled with nasal catarrh and a persistent productive cough ever since. Has gradually lost weight. During this time her menstrual periods have been several months apart. Her friends and home physician believed her to have pulmonary tuberculosis. She has been living accordingly for over a year. She is now about 20 pounds under weight but has not lost much during past year.

Examination.—Her urine, blood, gastric fluid and sputum were all negative as to organic or infectious trouble. An *x*-ray examination showed right maxillary and left ethmoidal disease (see Plate F).

Case 2.—A married American woman, 50 years of age, referred by Dr. M. V. Dryden on Oct. 20, 1911.

History.—Family and personal history negative. In past three years has suffered with headaches and aching in eyeballs. Has had nasal catarrh for ten years. During the past year has had four operations in the nose for polypi. The *x*-ray examination showed double maxillary disease—showed by irrigation to be empyema (see Plate G). The blood and urine examinations were negative except for a mild grade of simple secondary anemia.

Treatment.—After a few treatments a radical operation on both sides was proposed. On

Fig. 7.—Plate G shows the maxillary sinuses in Case 77694—double empyema.

Treatment.—After trying irrigation for six weeks with only slight improvement a radical operation was proposed. On Sept. 28 a Caldwell-Luc was performed. Patient passed from my care Oct. 24, 1911. In a letter dated July 2, 1912, she states "In April I weighed 128 pounds (a gain of over twenty pounds) but now weigh only 123. I was entirely free from the cough in the spring but am troubled a little now. I think this is due to the extra heavy work. I have a good appetite and enjoy the improved condition."

November 8 the Skillern operation was performed on both sides. The only complication was a sloughing of one of the mucous membrane flaps and a moderate hemorrhage on the eighth day after operation. Patient left for her home, Dec. 19, 1911.

In a letter dated July 2, 1912, she states "my general health and nervous condition have been better than before the operation. For three months after the operation I had no pain in my head, but I have been suffering again of late. There has been no discharge."

Case 3.—Married American woman, aged 44, referred by Dr. B. E. Moshier, Nov. 24, 1911.

History.—About five years ago she had a severe cold which hung on for over a year. She then had a nose and throat examination. In February, 1909, she had the anterior end of the left middle turbinate and polypi removed. In July of the same year more polypi and more of the turbinate were removed. This relieved her for some months of the disagreeable odor, but a mucopurulent discharge and dropping still continued.

An *x*-ray examination in November, 1911, showed left maxillary shadow, and irrigation proved the contents of the sinus to be pus (see Plate H).

Treatment.—A few irrigations proved the futility of milder measures and on Jan. 10, 1912, a Skillern operation was performed.

Fig. 8.—Plate H shows the maxillary sinuses in Case 79753—empyema on the left side,

On July 3, 1912, the patient stated that all discharge and odor had ceased for months. Her weight and general health is better than before. After the operation she complained of anesthesia of the upper lip on the left side and this still bothers her some; now, however, as a paresthesia, slight itching or tingling. She has a pelvic condition requiring operation, but otherwise is very well.

DISCUSSION

Dr. Otto T. Freer, Chicago: The pain in maxillary sinuitis is often misleading because, instead of being seated in the cheek and teeth of the upper jaw it is reflected into the supraorbital region. I recall four patients who had been told by several rhinologists that they had frontal sinus suppuration because of persistent brow pain; yet this pain was caused by suppuration of the maxillary antrum, as made evident by the usual signs of maxillary sinuitis. Dr. Charles A. Parker of the Golden Square Hospital in London and Dr. Browne Kelly of Glasgow both assured me that they regarded brow pain as characteristic of antrum suppuration.

I have not found that the antrum often acts as a reservoir for the frontal sinus or for pus from the ethmoidal cells and have come to regard the reservoir idea as largely a text-book theory based upon a few exceptional cases.

A characteristic symptom in acute maxillary sinus suppuration is intermittent emptying and filling of the sinus. The antrum fills with secretion until the pressure of its contents forces a way through the natural opening, when the pus discharges until the antrum is empty and lights up perfectly when transilluminated. The pus then reaccumulates until the cheek gradually grows dark again. For this reason it is necessary to transilluminate repeatedly in suspected suppuration of the antrum where transillumination is negative.

I have found the pus in acute empyema of the antrum due to influenza or rhinitis to be odorless, while the pus in cases of dental origin is nearly always foul. The lower turbinate is preserved in my operation, being merely reduced enough in size to give access to the nasal wall of the antrum.

TRAUMATIC MYXOSARCOMA OF THE KNEE, SIMULATING TUBERCULOSIS OF THE JOINT, WITH REPORT OF A CASE*

F. C. WITTER, M.D.
Petoskey, Mich.

Sarcomatous conditions of the knee-joint following trauma are so relatively infrequent as compared with tubercular changes that we are very apt to loose sight of the fact until the condition is in a rather advanced stage. Especially is this true if the patient comes from a tubercular family and has the classical symptoms of early pulmonary tuberculosis.

The various types of sarcoma are frequently found to follow injury, but this particular location seems especially prone to myxomatous change. The idea is held by many that the tumor is primarily a pure myxoma and the sarcomatous condition a secondary change.

REPORT OF A CASE

Patient.—W. W., male, age 21 years, single, student.

FAMILY HISTORY.—One paternal uncle died of "necrosis of the hip-bone."

PERSONAL HISTORY.—Usual children's diseases with good recovery. Somewhat delicate until maturity.

PRESENT TROUBLE.—While a student in one of our state institutions he injured his knee playing football. Some time later, before complete recovery had taken place he again injured the same knee while boarding a street car. The knee swelled badly and did not show the tendency to recover it had done following the original injury. The patient came to his home in Northern Michigan where he was attended for some time by his family physician, the knee having become too painful to allow him to be on his feet. A rather severe cold contracted before his reaching home affected his lungs to such an extent that tuberculosis was suspected and a sample of the sputum sent to Lansing for analysis but this was reported negative. There was fever ranging from 99° to 102° Farenheit with rapid pulse, cough with rather profuse expectoration, chills in the afternoon and frequent night sweats. He complained severely of the pain in the leg and finally a slight fluctuation developed just above the external condyle. His physician attempted to open the abscess but failed to reach any pus. A few days later I was called in consultation and found the young man presenting the pulmonary symptoms just mentioned. There had been considerable loss of weight since the onset of the trouble.

EXAMINATION.—Patient is about five feet leven inches in height, light complexion, rather nemic. Normal weight about 160 to 165 pounds. He has lost twenty-five or thirty pounds since the trouble began. Temperature, 101° Farenheit, pulse 118 to 120, respiration 22, perspiring freely and coughs frequently during the examination. The chest is rather broad but flat and the epigastric angle is somewhat less than a right angle. The sides of the thorax are fairly symmetrical but there is a slight lagging over the right lower lobe with dulness and diminished breath sounds over this area. The abdomen is scaphoid. No enlargement of the axillary glands palpable, but there is a slight enlargement of the inguinal glands on the right with some tenderness. The right lower extremity presents a swelling at the outer aspect of the knee beginning about the level of the external condyle and extending down to the lower border of the patella. There is also some swelling on the inner aspect of the knee extending downward below the patella, giving the knee the appear-

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

ance of having been dislocated. There is practically no redness at the joint but the swelling is rather painful on pressure. The patella is freely movable. A slight sense of fluctuation can be detected just above the external condyle.

A knife was inserted here through the previous opening and an incision sufficiently large to admit the examining finger was made. About one ounce of foul smelling pus was evacuated together with what appeared to be necrotic fatty tissue. With the examining finger in the wound the femur was found to be rough and honeycombed for some distance upward along the ridge above the external condyle. A drainage tube was inserted. The parents were advised to remove the boy to the hospital where he could receive the necessary attention.

For some reason this was not done and I was again called to see the boy about a week or ten days later. His attending physician had informed me that there were very exuberant granulations pushing up out of the wound, which bled freely, were not very sensitive to the touch, and grew so fast that he could not control them with cauterization with the silver nitrate stick. I found the conditions to be fully all the doctor had mentioned with the general swelling apparently increasing instead of decreasing, with the general condition of the patient considerably weaker, although the cough had cleared to some extent and the pulmonary condition apparently somewhat improved. The "granulations" were a deeper red than normal and extended out of the wound about three-quarters of an inch and gave one the impression of having been pushed out by some pressure within the wound. My suspicions were now aroused and a large piece of the "granulating" tissue was removed for microscopical diagnosis. The parents were again advised to take the boy to the hospital which they did at once. An attempt at operation was unsuccessful and the boy died the same evening about eight hours after operation. General collapse following the attempt at radical operation necessitating an abandonment of the effort.

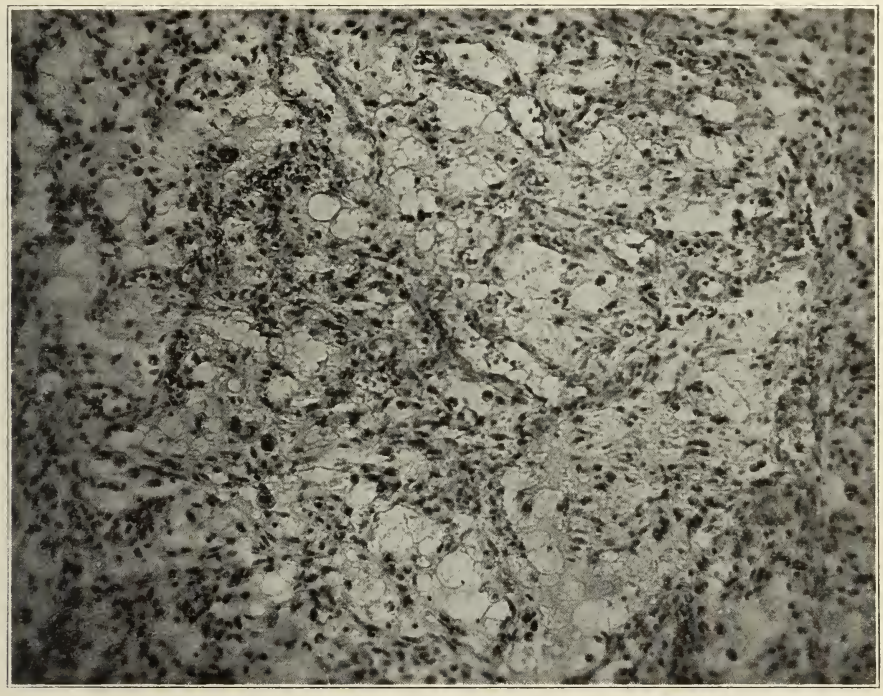


Fig. I.—Section through the "granulations," showing areas of myxomatous tissue.

Gross Pathology.—The piece removed from the edge of the wound is roughly 2½ cm. long by 2 cm. in thickness, one of its surfaces being

freshly cut. The other surfaces are smooth and of a bright red color due to its abundant blood-supply. The entire piece has a rather gelatinous consistency.

Microscopical Pathology.—The sections stained with hematoxylin and eosin show areas of varying appearance. Some show very little cellular elements, the structure being loose, having a homogenous appearance with very little stroma, taking the acid stain only. Other areas are very cellular, having no distinct general arrangement of the cellular elements and take the basic or blue stain. Some of the cells are somewhat spindle shape, others are more nearly round and their distribution throughout the homogenous appearing structure is very irregular, resembling no definite structure.

Diagnosis.—Myxosarcoma. Probably primarily a pure myxoma.

The accompanying microphotographs show the conditions very well. In No. 1, the myxomatous nature of the growth is shown, while in No. 2 the cellular nature is more clearly brought out.

This neoplasm had separated the muscles from the femur for nearly two-thirds its length, extending around the bone over one-half its circumference. The growth was very friable and involved the knee-joint proper.

A somewhat similar case was presented at the clinic at the University Hospital at Ann Arbor during the past year. For the notes on the case I am indebted to Dr. Dennis Smith of Ann Arbor.

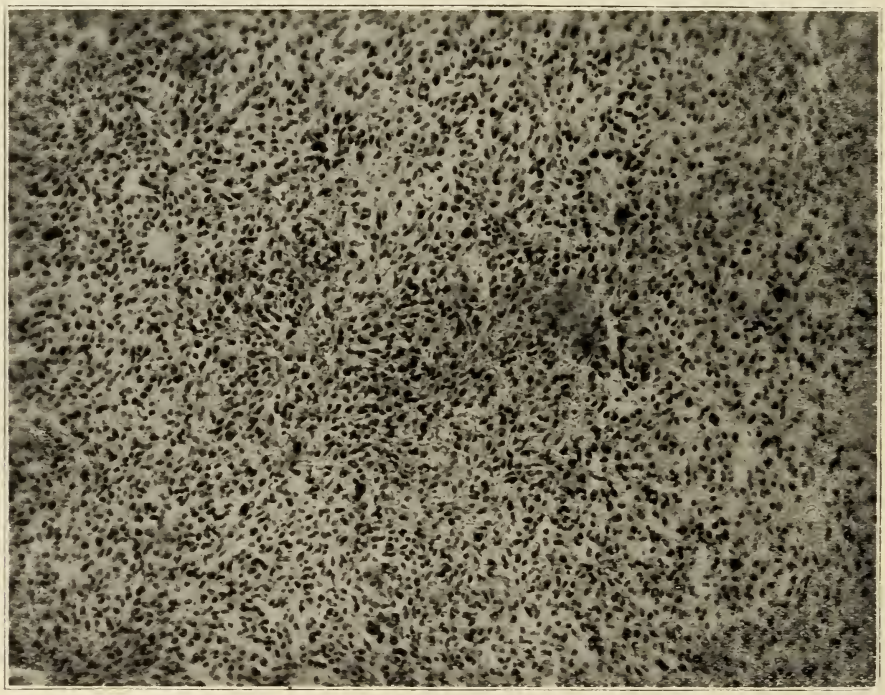


Fig. II.—Section through darker portion of "granulations," showing the nature of the very cellular areas.

Case.—Patient.—W. S., a school girl, age 7 years, was admitted to the hospital Nov. 16, 1911. She was suffering from a painful swelling of the thigh just above the knee which first made its appearance in August of 1911. After the onset of the trouble the pain and swelling increased, she was taken to a physician but obtained no relief. In September of the same year she was taken to a hospital in Saginaw where an incision was made and the bone scraped. She appeared to improve for a month and left the hospital. Soon after this the wound began to bleed and the swelling recurred. For

the last week the swelling has been going down. Since her admission to the hospital until the time of operation, Dec. 29, 1911, a period of about two weeks, the temperature ranged from 99 to 100.8 F.

General Examination.—Shows a large swelling of the lower thigh extending from the knee upward to the middle of the thigh. It is firm, smooth, and not tender to light palpation. The skin is movable. The patella is freely movable and when depressed and quickly released bobs back into place. The knee-joint is in a position of partial flexion, and cannot be completely flexed or extended. Two drainage tubes are in place 4 inches above the knee.

Operation.—Amputation at the hip.

Pathological Diagnosis.—Osteo-chondroma with cellular areas of chondro-sarcoma. Prognosis in so far as metastases are concerned ought to be good.

Recovery was uneventful and the patient was discharged on the twenty-fourth day.

A review of the literature of traumatism and sarcoma during the past five or six years shows but few cases where there has been a marked similarity between tuberculosis and sarcoma. Simonds,[1] in 1911, reported "A Case of Sarcoma and Tuberculosis." He suggests two possible reasons why the two lesions are not more commonly associated:

First.—The age incidence of the two lesions is not quite the same. Sarcoma and tuberculosis affect all ages but the former is more frequent before 20 and the latter after that age. Second.—The rapidly fatal course of a sarcoma may attract attention to itself so completely that a mild tuberculosis would not be recognized clinically.

In the instance of the particular case in question the apparent tubercular condition attracted the most attention, and malignancy was not suspected until the disease was fairly well developed. Had the tuberculin test been given or the pus examined, I am of the opinion it would have shown the two diseases to have been coexistent.

1. Simonds, J. P.: Case of Sarcoma and Tuberculosis. Bulletin of Johns Hopkins Hospital, Baltimore, January, 1911.

In the case of the 7-year-old school girl just cited, it is evident the first surgeon was presuming he had to deal with a tubercular osteitis, or he would have done a more radical operation than simply scraping the bone. In both instances this gave temporary relief, but the rapid return of the swelling accompanied by free bleeding gave a hint of other trouble.

Orth,[2] in 1907, reported two cases of sarcoma and trauma, one affecting the testicle, the other the lower jaw. Neither presented any symptoms of tuberculosis. Metastases developed in both cases with fatal results.

Vogel[3] reported seven cases following injuries to various parts of the body. Only one developed secondaries, and all but two of his cases were above twenty years of age.

Heinrich,[4] in 1911, reported one case in a man, aged 41, who was struck in the calf of the leg by an iron rod. The open wound healed in two weeks, but there remained a persistent swelling and the knee-joint became painful so that at the end of five months he had to give up work. He was treated by rest and a course of compresses for an assumed varicose condition. No improvement followed and the lesion was excised. Microscopic examination revealed a round-celled sarcoma. A thigh amputation was performed, but metastases in the spine developed in a few months.

Not every case of sarcoma following trauma presents symptoms that make us suspicious of tuberculosis, but occasionally we will find one that will show a similar temperature curve with chills and sweats, presenting a swelling that resembles the white swelling of a tubercular affection, in

2. Orth, O.: Sarcoma and Trauma, München. Med. Woch., Vol. liv, No. 44, pp. 2171-2216.

3. Vogel: Seven Cases of Sarcoma Developing After Trauma, Medizinische Klinik, Berlin, Vol. iv, No. 9, pp. 283-329.

4. Heinrich, E.: Traumatic Sarcoma. Deutsche Med. Wchnschr. Berlin, Vol. xxxvii, No. 4, pp. 145-192.

which a point of fluctuation can be detected. Nor will the tuberculin test and the evacuation of the pus with scraping of the diseased bone assure us that it is purely tubercular. There is always necrotic tissue present that may look innocent enough on removal, but to satisfy our conscience that no further trouble exists, microscopical examinations of the necrotic material may save us a surprise at a later date. There is the possibility in the case reported that the original injury to the knee started up a mild osteitis that favored the development of a tubercular condition, this, together with the second injury at the same point probably acted as the exciting factor to the myxomatous change, the malignant condition developing later as the result of the chronic inflammation.

TREATMENT

Radical operation appears to be the only line of treatment at our command which will at all successfully combat the condition. It may be that at a later date a serum or vaccine will be discovered that will be a valuable adjunct to the operative procedure.

I desire to express my thanks to Dr. F. G. Novy for the preparation of the excellent microphotographs.

REPORT OF NURSES' CENTRAL DIRECTORY, DETROIT, FOR FISCAL YEAR ENDING APRIL 1, 1912

Members in good standing April 1, 1911..	197
Members taken into membership during year ending April 1, 1912.....	146
Members married during year.....	10
Members dropped for non-payment of dues	5
Members resigned and moved to other cities, together with those whose dues remain unpaid	28
Present membership	300
Calls supplied during the year ending April 1, 1911	1091
Calls supplied during the year ending April 1, 1912.....	2102

Five of our nurses are doing hourly nursing. By hourly nursing we mean that the nurse goes into the home, and gives a bath or whatever the physician requires, once or twice a day, or two or three times a week, according to the need.

Some of these nurses will take twenty-four or forty-eight hour cases.

We also have five male nurses on our list. Some of these give massage and will do hourly work.

The Board of Directors desire to thank the physicians for their support during the past year, and will be pleased to receive any suggestion whereby the service may be improved.

Respectfully submitted,

Effie M. Moore, Registrar.

Hemolysis Estimation.—R. H. Ivy, Philadelphia (*Journal A. M. A.*, August 10), recommends the use of the Duboscq colorimeter for measuring accurately the amount of hemolysis in the end reaction of the Wassermann test. For most practical purposes the naked eye is sufficiently accurate, but there are cases in which a more accurate reading is called for, especially those in which the effects of treatment are being gauged by the reaction. A difference of 5 per cent. of hemolysis can be detected by the Duboscq colorimeter.

Stain for Spirochæta Pallida.—Ruth Tunnicliff, Chicago (*Journal A. M. A.*, June 1), in studying cultures of *Spirochæta pallida*, has found that the organism stains readily, usually in two or three seconds, with a 10 per cent. mixture of a saturated alcoholic gentian-violet solution in 5 per cent. phenol. The smears may be fixed in the flame, although no fixation is necessary. The stain is also useful for staining fresh material and for phagocytic experiments. A very thin smear is essential for obtaining a satisfactory stain of fresh material. For phagocytic experiments the stain is left on about three minutes; the smear should not be fixed by heat; after washing and drying, the leukocytes are stained with Leishman's or some other suitable stain. According to Koessler, the stain is satisfactory for staining *Spirochæta pallida* in experiments with spermatozoa as carriers of infectious agents.

CLINICAL AND INSTRUMENTAL METHODS OF ESTIMATING THE EFFICIENCY OF THE HEART*

HUGO A. FREUND, A.B., M.D.
Detroit

No single problem more frequently confronts the physician than the question of the ultimate power of the heart. Be it the surgeon or the internist the vital and final point in the management of any case is the cardiac efficiency of the patient. Not alone does this question arise in regard to the pathologic heart, but the normal individual not infrequently demands an estimate of his cardiac strength and reserve. It is my purpose therefore to-day to analyze the facts that we gain by every possible form of examination, and demonstrate the value of each in determining the efficiency of the heart.

We have all at our constant command those faculties that determine the integrity of the cardiac mechanism. By inspection, palpation, percussion and auscultation one may determine the efficiency of the heart as a perfect pump designed to receive the blood from the veins and regularly transmit it without leakage, delay or haste to the pulmonary and systemic circulations.

There are certain signs that by careful inspection reveal deviations from the normal and are of importance. Bulgings of the precordium are associated with enlargement of the heart, particularly those of long standing, and also indicate aneurysms, especially when associated with pulsations. Pulsations of the heart in several interspaces, beyond the area regularly ascribed to the heart and in the epigastrium, as well as the vessels of the neck have their peculiar significance. Retractions are of importance, especially when they occur with systole in the lower intercostal spaces of the left side do they indicate pericardial adhesions. Then the observation of venous pulsations and engorgement, and of the capillary pulse are of service in estimating the behavior of the heart.

Palpation is a further aid. Thrills occasioned by a stenosis and shocks, such as are felt due to forcible closure of valves, are to be accounted for. Furthermore, in this manner do we gain information in regard to the rate, regularity, volume, tension and quickness of the pulse that sheds much light on the efficiency of the mechanism.

Percussion reveals in a simple manner the size of the heart. Its enlargement in one of several directions has its peculiar significance not only in respect to endocardial lesions, but also regarding effusions, as well as dilatation of the great vessels. Percussion is not carefully enough practiced as a general rule. The comparison of the deep to the superficial dulness, or that elicited by heavy and by light percussion is often of great value. That brought out by heavy percussion is sometimes more to be desired. Every one realizes the value of recognizing the rise of the upper border of dulness in mitral stenosis, the increase of the transverse

* Read before the Wayne County and Calhoun County Medical Societies, April, 1912.

area of dulness in mitral insufficiency and the effacement of the cardiohepatic angle in pericardial effusion. Much has been written on the subject of accurate percussion and numerous methods varying but slightly have been advised. I would urge that every one make himself familiar with the direct method in addition to the usual indirect procedure. By this I refer to the immediate percussion of the thorax with the end of the finger.

By means of auscultation we recognize any change from the normal sound, and at the same time are we in a position to correlate the changes found by the other methods of examination. What is really heard on listening over the precordium is a mixture of several elemental factors. One must remember that whereas the second sound of the heart is due to the closure of aortic and pulmonary valves, the first sound is really made up of the mitral and tricuspid valvular elements, plus the contraction of the muscular walls of the ventricles.

Weak and distant heart tones at times signify a muscular weakness.

The gradual onset of a murmur or loss of valve tone often suggests grave endocardial alterations. The decrease of a previously clearly audible murmur may warn us of oncoming incompensation. Accentuation, reduplication and division, especially of the second sound, may indicate increased tension and burden on the pulmonary circulation as seen in mitral insufficiency, or at times increase tension on the aortic valves. Differences of intensity of sounds play an important rôle in many of the endocardial alterations, and it is to be urged that the practitioner train himself in regard to alterations of intensity, interpolation and reduplication of sounds rather than to the location, extent and intensity of murmurs. The onset of a gallop rhythm due to the interpolation of a sound between the second and the first heart sound or in the diastole of the heart, frequently forebodes grave dangers especially when associated with certain forms of renal disease. Another important feature to be observed is the comparative lengths of the pauses between the first and second sounds and the second and first sounds. In rapid and incompensated hearts the diastolic pause frequently becomes shorter so that at times a rhythm approaching the fetal is heard.

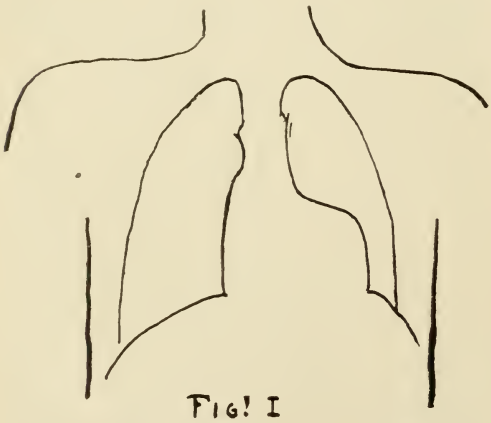


Fig. 1.—Hypertrophic right and left ventricles due to high pressure. "Boot-shaped" heart.

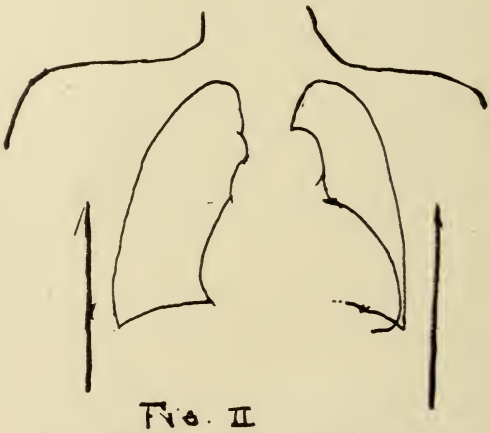


Fig. 2.—Mitral and aortic insufficiency.

Much has lately been said about the third sound of the heart. This is a short, quick, valvular flap heard immediately after the second sound or early in diastole.

It occurs in young individuals mostly and has no especial significance so far as is known. Extracardial sounds of importance heard on auscultation are pericardial rubs.

If one trains himself diligently in the methods here briefly reviewed, he is possessed of an armamentarium that will doubtless suffice in the estimation of the efficiency of any heart. In addition, however, to the facts that one may derive through the application of the special senses, it has been desirable to obtain accurate representation of cardiac activity.

Like in every other branch of science, it has been the aim to perpetuate the changing and the fleeting by some simple means which might visualize that which has come to us through the other senses. So investigators have sought mechanical, physical and electrical means of recording what may be seen, felt and heard. The simple photograph has reproduced bulgings, aneurysms, edemas, patients in dyspnea, etc. The skiagraph has amplified our knowledge gained on percussion in regard to size, position and boundaries. The sphygmograph has given graphic representations of what the palpating finger has felt. The phonograph has reproduced the vibrations of the heart heard on auscultation. And lately the electrocardiograph has come into actual use to record electrical variations and excitations in the heart. It is to these especial methods of investigation that I wish to direct attention and show to what degree of accuracy we can determine the strength, the power of response and the degree of resistance—in a word, the efficiency of the heart.

Before taking up the methods of investigation, permit me to briefly review some of the anatomy and physiology of the heart in the light of recent studies.

It has been shown that in addition to the muscular continuity of the heart there exists a definite system wherein impulses are originated, through which impulses are conducted and whence they are spread throughout the heart in a regular manner. This system, which is for convenience called the "conducting system" of the heart is structurally different from heart muscle. It has nothing to do with the valvular system and possesses three important attributes, excitability, power of stimulus production, and conductivity. It is composed of peculiar fibers known as Purkinje cells. This conducting system begins in the sinus formed by the great veins that lead to the right auricle. Here it is collected into a group or node known

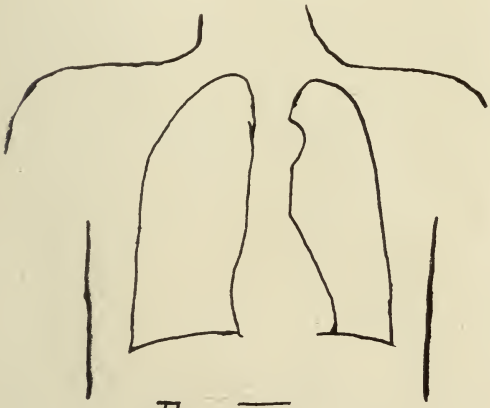


Fig. 3.—"Dropped heart" in an enteroptotic.

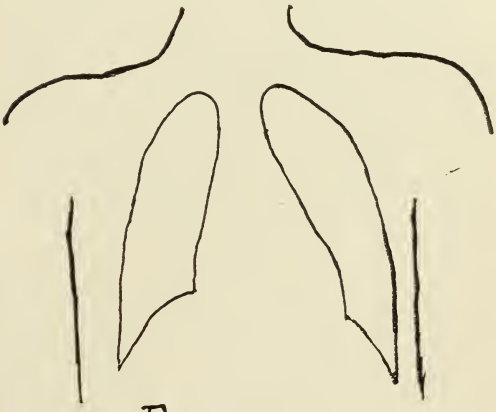


Fig. 4.—Incompensated mitral regurgitation.

as the node of Keith and Flack. As it spreads downward over the auricle it divides and ends in the auricular musculature. We find it again as a group in the auriculoventricular septum as the node of Tawara where it receives the impulses from the auricle and transmits them to its prolongation known as the bundle of His. The bundle of His divides in the interventricular septum, one limb running to the right, one to the left ventricle. There the divisions fray out to end in the ventricular musculature. Heart-beat starts therefore at the junction of the great veins and the auricle, spreads through the auricles, and is conducted to every part of the ventricles in a regular and orderly manner. This system carries out its function automatically in harmony with four sets of valves and a powerful group of muscle to maintain normal circulation.

We have come to learn that the functions of this special system may be disturbed and interrupted not alone by extrinsic influences, but by pathologic processes that directly affect its excitability, power of stimulus production and conductivity. Processes of this kind cause an alteration in the circulation only consequent to changes in rhythm. It is true that the ear and the palpating finger can recognize many of these changes of rhythm; but without the aid of instrumental means they could not in the past and cannot now be accurately analyzed.

Though Marey, the distinguished French clinician, sought the aid of graphic representation of the pulse, to clear up questions of irregularity of the heart, the method fell into disuse at his death. It remained for Hoffman, Wenckebach, MacKenzie, Franck and others to revive this means of investigation and place the interpretation of arterial, venous and apical tracings on a practical foundation. To-day the interpretation of a tracing forms the most important part in the routine of the clinical examination of an irregular heart, and from this interpretation certain definite prognostic conclusions may be drawn. I shall therefore briefly review the common meaning of the usual waves in the jugular or venous, in the radial or arterial, and in the apical pulse (Figs. 7 and 8).

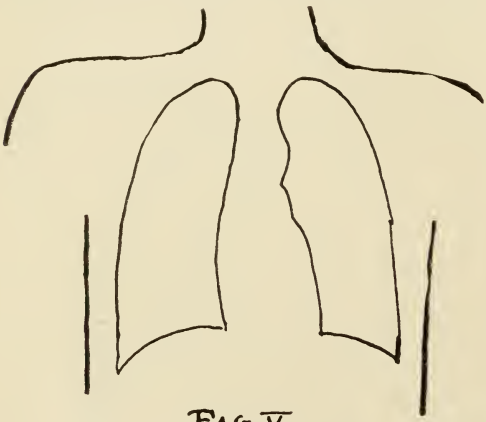


Fig. 5.—"Dropped heart," partially rotated to the front, complicating a mitral regurgitation.

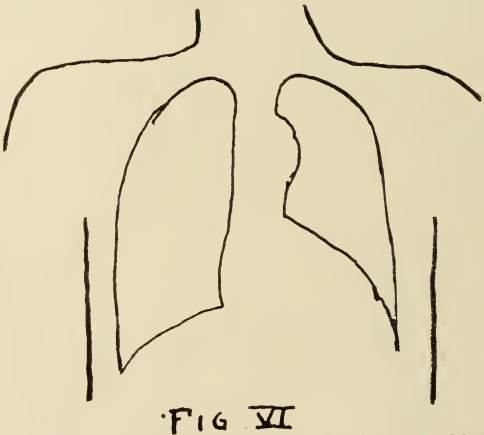


Fig. 6.—"Boot-shaped" heart with hypertrophied left ventricle and dilated aortic arch.

When the impulse to contraction beginning at 1 causes the auricle *A* to contract the stream of blood is sent downward through the open tricuspid valves; at the same time an impulse is transmitted upward into the great veins. This gives rise to the wave *A*, the wave of auricular

contraction. This lasts in the normal heart no longer than 0.2 of a second.

The impulse has now spread to the auriculoventricular part of the conducting system and thence to the ventricular muscle. Now the ventricle contracts, the tricuspid valve closes and we see the wave *C* in the jugular tracing. The wave in

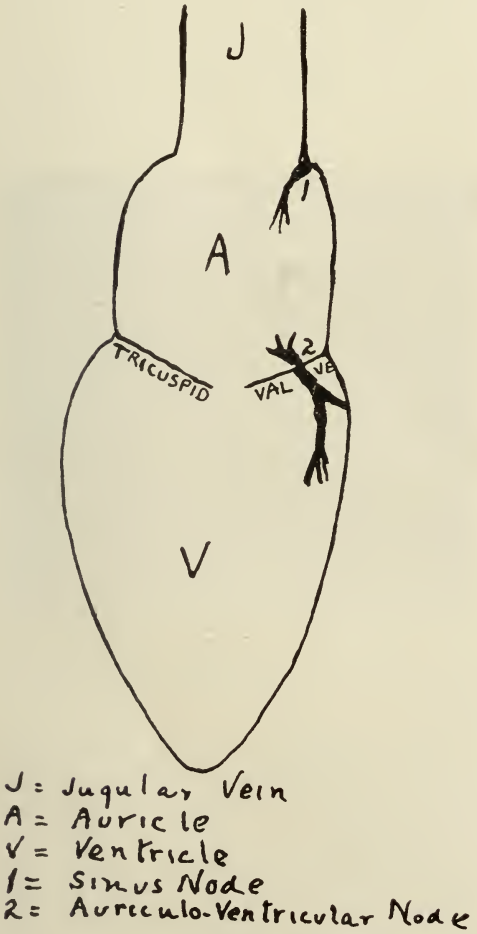


Fig. 7.

the arterial tracing and the wave in the apical tracing appear simultaneously.

The *C* wave in the jugular tracing comes from a closure of the tricuspid valves and the manner in which they are pushed upward by the contracting ventricle.

The *C* wave in the radial tracing comes from the impulse of the blood through the arterial system.

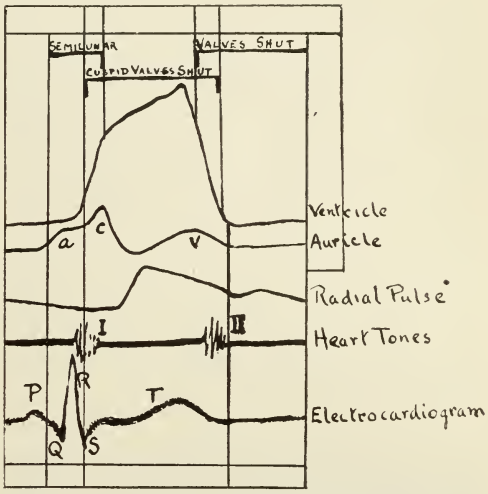


Fig. 8.—Diagram illustrating the waves in apical, jugular, radial, phonographic and electrocardiographic tracings.

The wave *S* that we get at the apex of the heart is due to the systole of the ventricle. It marks the beginning of the

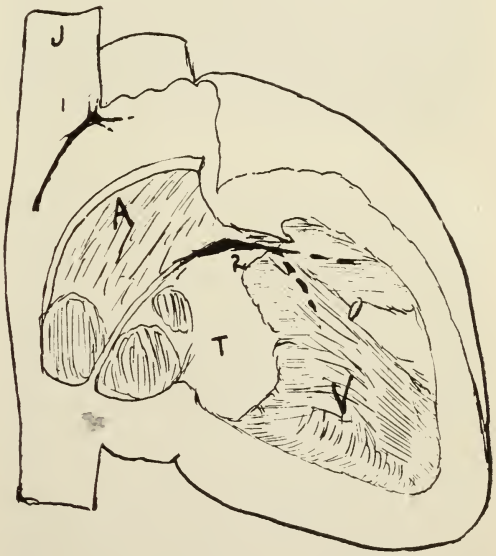


Fig. 9.—J—Jugular vein; A—Auricle; V—Ventricle; 1—Sinus node; 2—Auriculo-ventricular node.

period of persistence of the intraventricular pressure. It lasts till *d*, i. e., till the beginning of diastole.

During the time that the ventricle is contracting, the auricle relaxes. Furthermore, it soon afterward begins to fill again and this time slowly from the onrushing venous blood. This is shown by the wave V in the jugular tracing. This wave V continues to rise until the pressure within the auricle pushes open the tricuspid valves, when the pressure falls again.

In every normal venous or jugular tracing the A, C and V waves are to be sought. The absence of one of them, an abnormal elevation, or a change in the time period between them usually indicates some alteration in the normal mechanism of the conducting system.

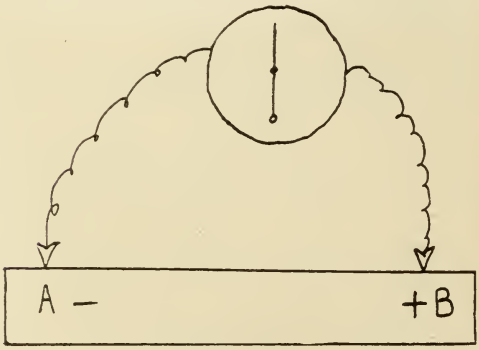


Fig. 10.

The arterial tracing is of value in marking the onset of ventricular systole. Much has been written about the shape of the wave in various forms of heart disease. Though within certain limits this is correct, the value of the form of the curve has been grossly overestimated. The same may be said of the apex tracing, though it at times contains valuable information regarding the auricles.

It is however from a comparative study of stimultaneously taken jugular and apical or jugular and radial curves that insight into the heart's activities and especially the irregularities have resulted.

The cardiac arhythmias that this method of registration has explained, fall under special groups. You are all familiar with heart-block, partial or complete in which there is an interruption in the impulse going from auricle to ventricle. This usually lies in the bundle of His. It is seen graphically when several A waves are not successively followed by a C wave. In such cases the auricle beats from the usual source of excitation in the node of Keith and Flack; the ventricle responds only occasionally or takes on a rhythm of its own and beats independently of the auricle at a greatly reduced rate. It is a serious

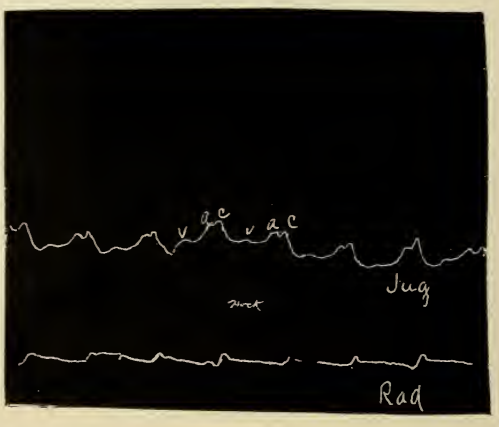


Fig. 11.—Normal sphygmogram.

condition inasmuch as it signifies an impairment in the conducting system of the heart.

Another common form of irregularity is the one known as extrasystole, or premature systole. It results from an extra or premature stimulation of the heart muscle. The resultant beat supplants the next regularly occurring contraction, provided it comes from a stimulus originating somewhere in the auriculo-ventricular conducting system below the sinus. It is only the subjective symptoms of "jumping," "flopping," "turning," "thumping," etc., that are deserving of mention in these cases. The extrasystoles are not necessarily indicative of any changes in the

heart mucles as they arise from purely extrinsic causes.

Alterations of the function of contractility are serious. When the ventricle does not fully recover its tonicity after a full contraction, it is followed by weak contraction, after which comes a strong beat and so on. Such a phenomenon gives rise to a rhythmic alternating pulse or pulsus alternans. Its presence is of grave import as it positively denotes exhausted strength of the heart muscle.

By far the commonest form of irregularity of the heart is the so-called "pulsus irregularis perpetuus," "perpetual arhythmia" or "absolute arhythmia." It is that form of irregular pulse in which the radial

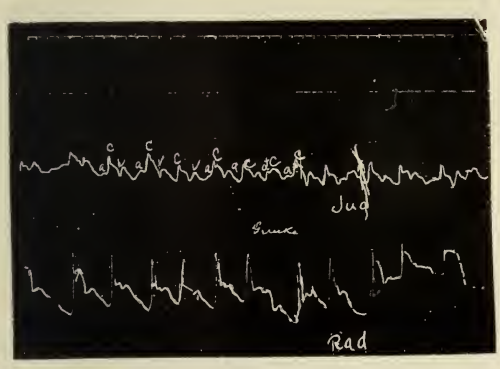


Fig. 12.—Extrasystole of ventricular origin.

tracing shows no two successive beats of equal strength, volume or rhythm. It signifies permanent and irreparable changes in the heart. The jugular tracing in such a case shows only the *C* wave and the *V* wave. The *A* wave is always lacking. This has given rise to a very definite picture known as the tracing of "positive venous" or of "ventricular" pulse. The absence of this *A* wave in such a tracing signifies at once that the auricle no longer contracts. It is paralyzed or more exactly fibrillates. Consequently the stimulus to contraction no longer arises in the node of Keith and Flack, but comes from some other source. Such an inhibition of function of the node may come either through inflammation or sclerosis and is the sign of permanent cardiac incapacity.

There is one form of cardiac arhythmia that is also accompanied by the jugular pulse of "positive" or "ventricular" type. I refer to paroxysmal tachycardia. In this condition we have a sudden increase of the pulse from normal to two, three and even four times the original rate. The rhythm is perfectly regular. From the tracings due to the usual absence of the *A* wave we would gather that the node of Keith and Flack is impaired and that the "pacemaker" in the new rapid rate is in another part of the conducting system. This is

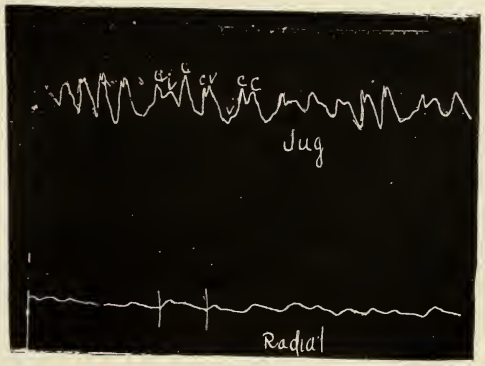


Fig. 13.—Tracing of a case of perpetual arhythmia. Note positive venous pulse.

probably true. Attacks of this kind occur at any age. They are not infrequently associated with arterial disease, especially coronary sclerosis. They are seen too at times in mitral stenosis. Repeated attacks signify some decided alteration in the centers of stimulus production. They have as a rule an unfavorable outlook.

I wish to speak briefly about that form of instrumental investigation that has come into more general use. I refer to the study of the blood-pressure. This has brought us to estimate the force of heartbeat and the factors that control it. Many forms of apparatus have been devised and each has its advocates. Suffice it to say

that the tonometer or the mercury manometer serve the purpose equally well. By them one can estimate the maximal or systolic and the minimal or the diastolic pressures. Subtracting the latter from the former the pulse-pressure is obtained. This is an important factor for it shows the amount of force expended by the heart with each systole.

Normally the pulse-pressure is 30 mm. of mercury. In chronic hypertension the maximal pressure may rise to over 200 mm., but there is always a proportionate rise of the minimal. If a high systolic pressure be maintained then we may expect a correspondingly strong heart

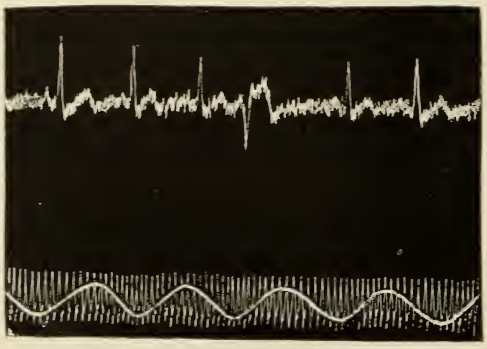


Fig. 14.—Electrocardiogram showing normal wave and one ventricular extrasystole. (From author's collection.)

muscle to assist in supporting it. Sometimes a low diastolic pressure is seen associated with a high systolic. This gives a big pulse-pressure. It signifies usually an insufficient aortic valve which allows the blood to regurgitate into the left ventricle. A high diastolic pressure, on the other hand, associated with a high systolic pressure gives us a small pulse pressure. This is one of the most frequently observed conditions. It is due to a stasis usually resulting from an inability on the part of the ventricle to properly empty itself at each systole. This is a true myocardial inefficiency that may only be benefited by lowering the diastolic pressure and not the systolic. Too frequently is nitroglycerin given in such conditions with doubtful results. Digitalis is to be administered, for digitalis increases the output of the ventricles, lengthens the diastolic pause of the heart and does so by *lowering* the diastolic or minimal pressure without affecting the systolic or maximal. Clinicians often place so much stress on the necessity of "bringing down the pressure." We must bear in mind that an increased pressure in many cases is a compensatory phenomenon when associated with cardiac hypertrophy. There is as

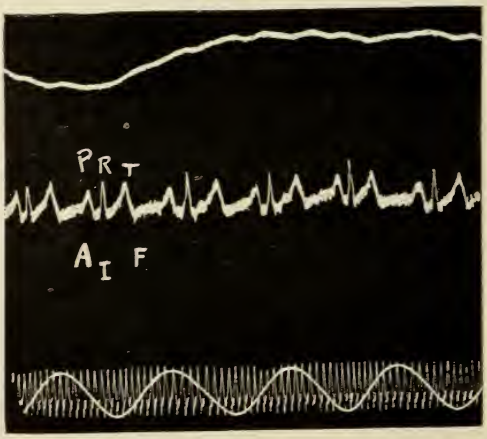


Fig. 15.—Electrocardiogram of a case of mitral stenosis. (From author's collection.)

much danger in bringing about too low a pressure as in permitting a high one to persist.

There is still another method of examining the heart within the grasp of every practitioner. It is the application of the x-ray by the use of the fluoroscopic screen or by the interpretation of Roentgenographic pictures. Refinements of both of these methods have been elaborated. Transillumination of the thorax at different angles has yielded definite configurations. More lately the methods of Moritz which consists of obtaining the outline of the heart by orthogonal projection of single points yielded through the x-rays falling

perpendicularly on the fluoroscopic screen, has been devised. The instrument is called the orthodiagraph. It is useful in research work to determine the actual size of the heart.

For clinical purposes Roentgenoscopy fills every requirement. By it we cannot only obtain valuable impressions in regard to the movements of the chambers of the heart, but we are able to see changes in the great vessels, in the pericardial sac and in the configuration of the heart due to valvular and myocardial disease. I have brought the radiographs of the hearts of several individuals which present characteristic configurations.

Most of us will recall the experiment in the physiological laboratory wherein the sartorius muscle of the frog was connected by the two electrodes to a galvanometer and records made of the contraction of the muscle (see Fig. 10). If in that experiment the point *A* be stimulated it becomes electronegative and all non-stimulated points, such as *B* for instance, become electropositive. Supposing electrodes be applied at *A* and at *B* and the current generated by the excitation or the "action current" be led through a galvanometer placed in the circuit. The current will travel from positive to negative through the wires and deflect the needle. Taking the intensity of the action current as ordinate and the time it acts as abscissa a definite curve could be plotted. Let us suppose that instead of a simple muscle fiber or group of fibers, we have a complete interlacing set of muscle tissue forming a complete organ. Let us further suppose that the action currents set up in this organ are unknown; but that they occur in regular rhythm and set up a series of contractions that successively alter the electrical potential from apex to base. Then let us apply an electrode at the apex and one at the base and lead this current to a galvanometer that will record the changes produced by the excitation. If this is accomplished a curve will result that shall be an expression of the action currents derived from a contracting heart.

Although the heart itself is not directly accessible to the electrodes that shall lead off this current, nevertheless the tissues of the body on all sides of the heart will conduct it. Hence it has been found possible to lead off from the moistened skin of each arm or of an arm and a leg the action currents of the heart. These are led to a sensitive galvanometer consisting of a platinum thread (.003 mm. in thickness and 87 mm. long) suspended between two poles of electromagnets. By means of an arc light and powerful magnifying lenses the vibrations and deflections in this thread galvanometer may be cast as shadows on a moving photographic apparatus which will record the minutest current.

In this manner it becomes possible to connect patients at very distant points with the apparatus. Merely two wires connected with zinc jars in which there is normal salt solution suffices. The patient keeps each arm or an arm and a foot quietly in the solution and every activity of his heart is recorded.

The typical form of the electrocardiogram consists of an initial *P* wave due to the stimulation arising in the auricle and the contraction of that chamber. When this is past, the stimulus passes along the conducting system. At the time when it probably is going through the bundle of His the curve shows the depression *Q*. Immediately there is a rise *R* due to the passage of the impulse over the ventricles to the apex of the heart causing the same to contract. This quickly subsides the curve falling to *S*. It quickly rises as the excitation spreads over the remainder of the musculature of the ventricle, giving

rise to the wave *T* which ends finally in a straight line, the period of rest (see Diagram II).

The great value of such a tracing lies primarily in the convenience and simplicity of having the auricular and ventricular pictures in one curve. It is possible by this method to analyze every form of irregularity and properly classify it. Though the electrocardiograph has been singularly useful in elucidating changes in conductivity and excitability of the heart muscle, its principal domain now lies in the investigation of alterations in stimulus production and in myocardial disturbances. However, its field of usefulness is just beginning to open up before us and in time many of the perplexing cardiac problems of to-day will be explained by it.

Thus far great progress has been made in the practical determination of the common forms of the arhythmias. Disturbances in conductivity are readily analyzed. In heart-block we may find repeated *P* waves that are not followed regularly by the *R* and *T* waves. Alterations in the source of stimulus production give rise to several forms of arhythmia. Th. Lewis and also Rothberger and Winterberg have shown that in perpetual arhythmia the *P* wave is replaced by many fine rapid oscillations due in all likelihood to fibrillation of the auricle. Then too there is the condition of nodal rhythm, rapid or slow in which the *P* wave falls together with the *R* and *T*. It has become possible by the electrocardiagram to state definitely the location and nature of extrasystoles. By the form of the curve we can determine whether the premature stimulation arises in the sinus, the auricle, the auriculo-ventricular junction, the base, the apex or the center of the ventricle.

It has been suggested by Rothberger that gallop rhythm is due to a dissociation of one branch of the bundle of His. This investigator has found that when one limb of the bundle is cut experimentally in animals similar curves are obtained.

In addition to the irregularities the form of electrocardiogram varies with valvular and myocardial conditions. In fact so accurately can we describe a lesion that the timing of a murmur is not really essential.

It is well known that the left auricle is quite inaccessible to examination. A knowledge of its condition is especially desirable in those conditions in which it is hypertrophied. This is most common in mitral stenosis. Here the electrocardiogram shows the *P* wave increased in size usually in proportion to the hypertrophy of the auricle.

In hypertrophy of the ventricles it is frequently possible to make out which is hypertrophied. When the right is chiefly enlarged the *R* wave is very high and the *T* wave of positive character and normal in elevation. When the left ventricle is hypertrophied several forms of curve may result. Very commonly, however, the *T* wave is negative.

In myocardial disease two distinct conditions have thus far been found that are of practical importance. When there is myocardial degeneration there is a low *T* wave and a moderate *R* wave. In myocardial hypertrophy such as is seen in hypertension an abrupt and considerable elevation of the *T* wave is usually present. When such a heart muscle weakens the elevation gradually becomes less although the tension may persist from other causes.

I have reviewed in a somewhat superficial manner the most important clinical and instrumental methods of investigating the ultimate power of the heart. None of the clinical methods is indispensable. All of the instrumental are — yes, but how many of the men present would willingly give up the use of their sphygmomanom-

eter? Who has not learned of the size, shape and position of the heart by the skiagraph? And I dare add that many present have found occasion to use the polygraph in explaining an irregular heart.

It would be difficult to sum up so large a subject as I have considered. In addition to reviewing the facts on which one may make a just estimation of the efficiency of the heart, I have endeavored to place emphasis on the value of instrumental methods as seen in the light of routine clinical examination. Whereas in the past it has been the internist's ambition to decide on changes in form and in structure, medicine in the last decade has directed its attention more decidedly to the detection and causes of alteration in function. It is only by the employment of every means that the ultimate efficiency of the heart may be ascertained.

513 Washington Arcade.

MILK COMMISSIONS

The State Board of Health has recently appointed two medical milk commissions in Calhoun County. Commission No. 1 consists of Drs. C. E. Stewart, J. C. Brown, W. H. Haughey, A. F. Kingsley and A. S. Kimball, all of Battle Creek. Commission No. 2 consists of Drs. E. L. Parmeter, W. C. Marsh, H. A. Herzer, E. M. Chauncey, H. E. Grant, all of Albion.

Cleft Palates.—H. S. Haslett, Pittsburgh (*Journal A. M. A.*, August 10), in concluding his remarks says that success in the treatment of all cases of cleft palate depends largely on the thought given it, the selection of the proper appliance for the case, and the care and skill with which it is constructed. Patients suffering with a congenital defect usually have difficulty in adapting themselves to the changed conditions but with proper instruction and perseverance they soon unlearn their former way of speaking and in many instances have become so proficient that their deformity was not suspected.

Unique Vision.—A case of unique vision in which the individual was able to read the page of an ordinary book at a glance is reported by G. M. Gould, Ithaca, N. Y. (*Journal A. M. A.*, July 6). The ability began to show itself in middle life, becoming more perfect as age advanced. The mental functions were unusually developed. The man was exceptionally learned, his memory almost faultless. The case is explained by Gould as follows: Sometime during the middle years of the individual's life the macular region of the retina of the right eye was destroyed by chorioiditis due to eyestrain. The fixing part of the retina was obliterated. The left eye was not diseased and continued the perfection of macular or central vision. By long, unconscious and forced exercise the healthy zone of the right retina was educated to such a degree as to be able to receive and transmit to the brain the image of the entire page except that part falling on the destroyed central portion. This was naturally supplied in perfection by the macular region of the left eye. The central visual center thus received the entire photograph of the object seen, made complete by the complementing action of the two eyes. He goes at length into this explanation and says it seems impossible to him that, with retained macular function of both eyes, such a marvelous extension of synchronous peripheral vision could be acquired.

Malpractice Suits.—It is possible that certain legislation may be of assistance to us in preventing the wholesale bringing of damage actions against doctors, where, as now, it is so easy for plaintiff to begin action. If the latter wins, he divides the amount received with his attorney, and, if he loses, he is out about $15 that he has paid as fees for getting into court. But whatever the result of the litigation, the doctor is greatly injured as is the profession. Merely as a suggestion I would say that legislation along the line of requiring a person under such conditions to put up a bond to reimburse the doctor, in case the plaintiff is not responsible, or possibly a law making a criminal offense for a person to make a charge against a doctor unless he proves the same, might be reasonable and of benefit to our profession. E. A. Sommer in *Northwest Medicine*, August, 1912.

A STUDY OF 212 CASES OF CANCER OF THE UTERUS WITH SPECIAL REFERENCE TO EARLY DIAGNOSIS*

GEORGE KAMPERMAN, M.D.
Ann Arbor, Mich.

The cause of cancer belongs to that large group of unsolved problems which has baffled medical science in every attempt to find a solution. The interest in the problem does not exist because cancer is a new disease, since this disease is as old as the world; but the high mortality, the terrible nature of the disease, the almost uniformly bad prognosis in the past, its increasing frequency, its unsolved etiology — these factors have been sufficient to keep the question continually before the medical profession.

As long as the cause of cancer is unknown, prophylaxis or treatment cannot be said to follow along rational lines. But while laboratory workers and clinicians are endeavoring to ascertain the cause of the disease, patients with cancer are presenting themselves for treatment, and must be helped if possible, whether the treatment be rational or not. Each specialty has done its share towards the solution of the problem as far as its limited field is concerned, but in no instance has the solution been reached. Thus it has fallen to the lot of the gynecologist to help solve the question of uterine cancer. The high percentage of mortality and the low percentage of cures testify to the reality of this unsolved problem.

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

* From the University of Michigan Gynecologic Clinic.

PREVALENCE

Although cancer seems in some respects to be a disease of certain localities, no part of the world is entirely free from it. Like other diseases, cancer becomes more frequent the more diligently it is looked for and the more carefully diagnoses are made. Although certain races seem less susceptible, no race is entirely immune. Not only is cancer prevalent everywhere, but it is actually on the increase. In many countries this disease is becoming one of the great mortality producers, usually being found near the top of the mortality lists. While the frequency of the disease has increased, the percentage of cures in most instances has not improved. However, some progress has been made, the Germans in particular having done a good work, for with them the percentage of cures has gradually increased.

In Michigan cancer is among the more common causes of death. The vital statistics compiled by the Department of State show that this disease is near the top of the mortality list. During the five year period ending Dec. 31, 1909, the mortality due to cancer was over 9,000. Only four other diseases[1] caused a higher mortality. The statistics are rather incomplete, however, and it is impossible to determine anything definite concerning uterine carcinoma, since the Department of State does not compile separate statis-

1. Heart disease, tuberculosis, pneumonia, enteritis (infantile).

tics on uterine cancer, but includes in one group all genital carcinomas.

MORTALITY

A comparison of the Michigan mortality statistics for tuberculosis and cancer shows some interesting facts. The mortality due to tuberculosis is only slightly higher than that due to carcinoma. During the five years ending Dec. 31, 1909, there has been a slight (3.7 per cent.), but gradual decrease in the mortality due to tuberculosis. On the contrary, the mortality due to carcinoma has increased, not gradually, but at a very rapid rate — the increase during this time being 15 per cent. Although we are constantly reminded of the great increase of and danger from tuberculosis, we very seldom hear a similar word of warning concerning carcinoma. Furthermore, because of neglect or ignorance, the great majority of cases of carcinoma are incurable. It would seem that a disease which has so uniformly doomed its victims in the past, but which is curable in certain stages, should be given more public thought and attention than it has received.

Cancer seems to be more frequent in southern Michigan than in the northern part of the state. In fact the number of cases of cancer per thousand population gradually increases as one goes from northern Michigan to the extreme southern counties. In this respect the statistics are just the opposite of those for tuberculosis, where the smaller number of cases per thousand population are found in the southern counties, and the rate gradually increases as one goes north, and is greatest in the upper peninsula. Several explanations have been offered, but none is very satisfactory. The question of race or nationality will largely explain the distribution of tuberculosis. It has been suggested that cancer is a disease of civilization, and possibly this explains its increased frequency in the more thickly settled portions of the state. However, no definite proof of this has been presented.

FREQUENCY OF UTERINE CANCER

As stated before, we have no means of determining the exact frequency of carcinoma of the uterus in this state. We can, however, get some idea as to its relative frequency as compared with other gynecologic diseases. During the last ten years about 5,300 patients applied for treatment in the University of Michigan Gynecologic Clinic and in the Private Hospital of Dr. Reuben Peterson, and practically all suffered from gynecologic complaints. Of these patients, 212 had some form of uterine carcinoma. From these statistics alone it would be fair to conclude that about one in every twenty-five gynecologic patients has carcinoma of the uterus—a percentage of four. Just what proportion of the entire female population is afflicted with uterine carcinoma it is impossible to state.

CLASSIFICATION

Clinically, uterine carcinoma can be classified into two groups—(1) carcinoma of the cervix, and (2) carcinoma of the fundus. These are distinct clinical varieties, and as they differ so much in prognosis and in treatment the distinction should always be borne in mind. Carcinoma of the cervix is more frequent, occurring 176 times in 212 cases (83 per cent.), while carcinoma of the fundus occurred only about thirty-six times, or in about 16 per cent. of all cases.

Clinically, carcinoma of the cervix may occur in various forms, the picture in most cases depending on the stage of the disease. One form which unfortunately does not cause enough symptoms to alarm the patient, and for that reason is not often recognized, shows a hard, thickened,

indurated, friable cervix, but without much destruction of tissue. This picture represents the earliest form of the disease. Another form is the proliferating variety where the cancer juts out from the cervix and extends into the vagina, which it may entirely fill. This tumor is usually spoken of as a "cauliflower" growth, a term in every way fitting. A third clinical form presents an excavated cervix, with marked destruction of tissue. Often the cervical rim is entirely destroyed, merely an excavation marking the former site of the cervix. Without doubt many of the cauliflower growths at a later stage, when degeneration has occurred, would show this "crater" form.

The clinical or gross picture of carcinoma of the fundus is usually that of a fungus growth replacing the endometrium. At times the entire endometrium may be involved. Rarely the fungus growth is attached over a small area only, somewhat like a polyp.

Microscopically there are also various forms of carcinoma of the uterus. Carcinoma is an epithelial growth, and as the uterine fundus contains only one kind of epithelium, we have here only one type of carcinoma. It arises from the epithelium of the endometrial glands, and proliferates by forming gland-like extensions. This form is known as "adeno-carcinoma" of the fundus or endometrium. In the cervix we find two kinds of epithelium, stratified squamous epithelium covering the portio vaginalis, and tall columnar cells lining the cervical canal and its glands. These columnar cells may be affected by carcinoma, with resulting proliferation similar to carcinoma of the fundus, producing an adeno-carcinoma of the cervix, extremely malignant, but fortunately very rare. The more common form of cervical carcinoma arises from the stratified squamous epithelium, and is known as "squamous-celled" carcinoma. In certain cases these tumors seem to proliferate from the deeper or basal layers of the epithelium, rather than from the flattened squamous cells. This form is spoken of as "basal-celled" carcinoma. These two forms arise in the same tissue, all authors not recognizing the distinction, which is microscopic and dependent on the form of the cells constituting the neoplasm.

ANALYSIS OF 212 CASES—INFLUENCE OF AGE

As a basis for this paper, a study has been made of 212 cases of cancer of the uterus treated in the two clinics mentioned above. These cases have been compiled and a study made of the relation of carcinoma to age, menopause, parity, heredity, etc.

In the present series of cases the age at which the carcinoma developed could be definitely determined in 211 cases. The average age for the whole series was 48 years. However, the age limit is wide, and the youngest patient being 26, and the oldest 75 years of age.

A separate classification was made of the cervix and fundus cases. The age could be determined in 175 cases of cancer of the cervix. The youngest patient was 31 years of age and the oldest was 69 years. The average age was 47.2 years.

TABLE 1

Age Statistics—Carcinoma of Cervix

Ages	34	35-44	45-54	55-64	65-74
Number of cases	17	59	59	34	6
Percentage in each decade	10	33	33	20	3

As shown in Table 1, the number of cases at either extreme of this age limit is small. Two-thirds of the cases occur in the two decades between 35 and 55 years of age. It is not quite so common in later life.

The age was determined in all the thirty-six cases of carcinoma of the fundus. As shown in Table 2, the disease may occur at almost any age. The youngest patient being 26 and the oldest 75 years old. The average age is 52 years, this being five years older than the average in cancer of the cervix. The decades beginning with 35, 45 and 55 years of age each furnish about the same number of cases. The majority of these (57 per cent.) occur between 45 and 65 years of age, which is a later period than the majority in cancer of the cervix. It cannot be said that adeno-carcinoma of the fundus is more common in later than in earlier life. In fact, in this series it is more common in patients between 35 and 45 than in those between 65 and 75 years of age. It would be more correct to say that adeno-carcinoma of the fundus develops through a longer range of years than carcinoma of the cervix. More patients of advanced years are afflicted with it than with carcinoma of the cervix, and this raises the average age. But it is wrong to assume that younger patients are not subject to this form of carcinoma. The number of cases of carcinoma of the fundus is distributed quite evenly between 35 and 65 years of age.

TABLE 2

Age Statistics—Cancer of Fundus

Ages	34	35-44	45-54	55-64	65-75
Number of cases	1	9	10	11	5
Percentage in each decade	3	25	27	30	14

INFLUENCE OF CHILDBEARING

The relation of childbearing to cancer of the uterus has been frequently discussed. In the series of 212 cases, twenty-three had never given birth to a full-term child, although four of them has had early abortions. This means that 189 patients, or 89 per cent. of the series, had been delivered of full-term children. Statistics like these have given support to the opinion that the trauma of labor stands in some etiologic relation to carcinoma of the uterus.

Of the 176 patients with cancer of the cervix, 163, or 93 per cent. had had children. It will be noted that the percentage of patients without children is considerably larger in patients with cancer of the fundus (27.7 per cent.) than in patients with cancer of the cervix (7 per cent.). From this alone it may be assumed that childbearing does not stand in such close relationship to carcinoma of the fundus as it does to carcinoma of the cervix. The question of sterility should be considered in this connection. Of the thirteen nulliparæ among patients with cervical cancer, nine had been married over a long period of years without becoming pregnant. Of the other four nulliparæ three had had miscarriages and one had married late in life. Of the ten nulliparæ among the patients with cancer of the fundus, three were married for a long time without becoming pregnant, four were single, two had had miscarriages, and one had married after the menopause.

TABLE 3

Parity—Cancer

	Carcinoma Uterus	Carcinoma Cervix	Carcinoma Fundus
Number of cases	212	176	36
Number without children	23	13	10
Percentage, no children	11	8	27.7

The above statistics show that undoubtedly carcinoma is more likely to occur after childbirth, and this is especially true of carcinoma of the cervix. But it is also very evident that carcinoma of both the fundus and the cervix may develop in women who have never given

birth to children or who have never been pregnant.

RELATION TO MENOPAUSE

From the patient's point of view the menopause, or change of life, means a cessation of the menstrual flow. Although an important incident, we know that the cessation of menstruation is only one of the phenomena of the menopause. Often we see patients who have the nervous and other manifestations of the climacteric, but still have a bloody discharge, not infrequently due to disease. Such patients do not consider they have had the change of life. In this series of cases, we will, however, consider the cessation of menstruation as the criterion of the established menopause. Information concerning the menopause was obtained in 208 cases. It was found that the disease had started before the menopause in 126 cases (60 per cent.). In the remaining eighty-two patients the carcinoma first produced symptoms after there had been a definite cessation of the menstruation due to the menopause.

TABLE 4

Menopause not begun	Post Menopause 1-5 yrs.	6-10 yrs.	11-15 yrs.	16-20 yrs.
	All cases (208)			
126 (60%)	24	22	22	14
	Cervix cases (172)			
110	19	17	17	9
	Fundus cases (36)			
16 (44%)	5	5	5	5

This is a very important point to consider as it affects directly the problem of early diagnosis. The patient has a very indefinite idea as to what the change of life means, and any menstrual irregularity, whether it be a decrease or an increase in the flow is ascribed to the change of life. Table 4 shows that 60 per cent. of the patients with carcinoma of the cervix do not have the cessation of menstruation due to the menopause. The disease develops and keeps up some bloody discharge at the time when the menopause should occur with the patient blissfully ignorant of the true state of affairs. It is not until there is a constitutional breakdown that the patient gives the matter any serious attention. In the 40 per cent. of cases where the symptoms begin after a definite amenorrhea due to the menopause, the patient is more likely to be alarmed and relief is sought at an earlier stage.

It will be seen from Table 4 that more cases of cancer of the cervix (64 per cent.) begin before the menopause than do cases of cancer of the fundus (44.4 per cent.). This is due to the fact that more cases of cancer of the fundus begin late in life.

OPERABILITY

The majority of all cases of carcinoma of the uterus are inoperable when the patients apply for relief. The operability depends on the extent of the involvement. The duration of the disease is not an exact criterion, although it is in a general way. Patients who have had symptoms for a year or two are usually beyond surgical relief. Occasionally, however, a slow-growing carcinoma may be operable even after a longer period. The operability must be determined by bimanual examination. If the cervix is firmly fixed in the pelvis and the fundus and appendages cannot be felt because of the induration of the vaginal vault, a curative operation is out of the question. If, however, the local disease is limited to the cervix and the vagina is free and the uterus is freely movable—then the patient still has a chance for a cure. In such a case an exploratory operation is always advisable.

In carcinoma of the fundus there may at times be considerable involvement of

the endometrium with marked enlargement of the uterus, still the case be distinctly operable. This variety of carcinoma is usually of slow growth. The movability of the uterus will determine the operability. In advanced cases where the uterus is fixed and ascites has developed, operation is out of the question.

In trying to make a classification of cases according to the clinical picture presented, 158 cases were available for classification. The three stages before mentioned were recognized. Thirty patients showed the enlarged, thickened, indurated and friable cervix without much loss of tissue, and were considered favorable cases for operation. In eighty-seven patients the carcinomatous crater or excavation was seen. The cauliflower mass was observed in forty-one cases. It will be noticed that the most common clinical picture is the excavated cervix or vaginal vault, and unfortunately this represents the more advanced stage of the disease. Of the 212 cases, fifty-three cases, or 25 per cent., were considered operable and were subjected to the radical abdominal operation. The remaining 75 per cent. were beyond cure, and only palliative operations could be performed.

INFLUENCE OF HEREDITY

A great difference of opinion exists as to the influence of heredity in the development of cancer of the uterus. W. Roger Williams has collected statistics on this subject and found that there is a family history of cancer in 19.7 per cent. of all patients with cancer of the uterus. The percentage is slightly higher in patients with cancer of the breasts. In his entire series of female patients, there was a history of heredity in 22.4 per cent. of all cases. In a series of 101 women with nonmalignant tumors the same writer finds a family history of cancer in 15.8 per cent. of the families. This slight difference, he presumes is evidence of the hereditability of cancer. Cullen, in a series of seventy-four cases of cancer of the uterus found a family history in about 19 per cent., and concludes that heredity plays a minor rôle in the development of cancer of the uterus.

In the series under consideration there was a definite record as to the family history in 192 cases. Of these twenty-nine showed a family history of carcinoma —a percentage of about sixteen. For the purpose of comparison, the family histories of 100 gynecologic patients free from malignancy were investigated. In this series, taken consecutively, 22 per cent. of the cases showed a family history of cancer. The fact that in patients with carcinoma the percentage of these with family histories of malignant disease was less than in gynecologic patients without carcinoma, certainly would not support the theory that cancer of the uterus, at least, is hereditary.

SYMPTOMATOLOGY OF UTERINE CANCER

The symptomatology of uterine carcinoma is fairly distinctive in most instances. In 194 cases in this series, there was a definite record as to the earliest symptoms and the course of the disease. In 142 cases, or 73 per cent., the earliest evidence of the disease was the occurrence of a bloody vaginal discharge. The nature of this bleeding varied a great deal, and almost every type of hemorrhage was recorded. In many instances it first appeared as an increase of, or a prolongation of, the normal menstrual discharge. Patients with a period of four days duration had a gradual lengthening of the period up to ten or fourteen days. In many cases the flow was continuous, the patient losing all track of her normal periods. In nearly all cases an inter-

menstrual bloody discharge appeared early in the disease. In most cases this was very slight, amounting in many instances to nothing more than an occasional stain. But even in these cases where the amount of blood lost was small, the flow was frequent and easily produced. It was not uncommon for a slight bloody discharge to appear after coitus or after the use of a vaginal douche. Likewise any exertion or jarring would give rise to a stain of blood on the napkin. In several patients this show of blood appeared during or after straining at stool.

But as mentioned before there was a great variation in these types of bleeding. In a few patients the first evidence of something wrong was a sudden gush of blood from the vagina. In a few where this occurred, there were no further symptoms for a considerable length of time. In others the bleeding was continuous and severe and in a very short time caused a marked secondary anemia.

The bloody discharge was followed in most cases by a watery discharge which often contained bits of necrotic tissue. In nearly all cases where enough time had elapsed since the beginning of the bloody discharge a foul watery discharge, due to the presence of necrotic uterine tissues appeared. It seemed to come earlier in cases where the hemorrhage started profusely. The discharge very often at first was clear, watery and odorless, but after secondary infection occurred it became foul and thick in consistency.

In most cases pain was a late symptom and occurred in advanced cases. The type of pain varied a great deal, some patients complaining of a bearing down pain in the abdomen and others simply of a suprapubic tenderness. Many patients had a very intense sacral backache. Pain radiating to the hip and down the thigh was also very frequent. The pain in most cases was very severe, often of a "grinding" or "boring" character rather than sharp. Although the pain occurred at all times, more frequently it began towards evening and lasted well into the night. In some of the advanced cases drugs were powerless to control the pain.

In forty-one cases the first symptom observed was a leukorrheal discharge. In these cases there usually was no profuse hemorrhage, although the discharge later showed some color, or became blood-streaked. A few patients asserted that they had never had any abnormal bloody discharge.

As stated before, pain is a late symptom of uterine cancer. Eleven patients, however, gave pain as their first symptom. Pain may occur early, but in such cases it is always a question whether it may not be caused by some lesion other than carcinoma.

It is impossible to differentiate between carcinoma of the cervix and carcinoma of the fundus from symptoms alone. It has been said that a clear watery discharge is characteristic of carcinoma of the fundus, but in these cases no such distinction could be made. Only by a pelvic examination could one differentiate the cases. A striking difference, however, was the fact that in carcinoma of the fundus local symptoms existed for a much longer time than in cervical carcinoma without producing constitutional effects.

The rather infrequent occurrence of cachexia in these cases is worthy of note. It emphasizes the fact that cachexia and loss of weight are not only not essential to carcinoma of the uterus, but that one must not wait for their development to make a diagnosis. It is not uncommon for patients to say that they are even gaining in weight. Many patients put on flesh at about the menopause, and one must not take this as an assurance that no malig-

nant disease exists. If the patient's freedom from disease be judged by her flesh alone, valuable time may be lost before the true diagnosis be made. In fact excessive flesh is a distinct disadvantage to patients with carcinoma of the uterus since it may be enough to turn the scale in favor of a mere palliative operation in a border line case, where in the case of a thin patient, the radical operation would have been attempted with some hope of success.

TREATMENT

The treatment of carcinoma of the uterus may be divided into (1) curative, and (2) palliative. When the cause of cancer is discovered we may be able to cure more patients. Until then we have no alternative but the knife. When another method of cure is discovered, no matter what it is, the gynecologic surgeon will only be too glad to turn over these patients to the cancer specialist.

Of the 212 cases, fifty-three, or exactly 25 per cent., were subjected to the radical abdominal operation. This does not mean that the surgeon was confident of an absolute cure in each case. It signifies, considering the extent of the disease, that each case was thought worthy of the trial.

The radical abdominal operation for carcinoma of the uterus consists of the complete removal of the uterus and the parametrium with a cuff of the vagina, together with both tubes and ovaries. The operation also includes the removal of enlarged pelvic glands whenever this can be done without too seriously endangering the life of the patient. The operation is a serious one, and is distinctly an operation for the specialist. A mortality of about 25 per cent. among these fifty-three cases testifies to the severity of the undertaking. However, with a goodly number of patients alive and free from recurrence from five to nine years after the operation and with other patients living who promise to do equally well or better, one feels encouraged even though the undertaking is desperate. The operation gives the patient her only chance for a complete cure, and for this reason the opportunity must not be denied her if there be a chance for success.

The results of the treatment of carcinoma of the fundus are somewhat more hopeful than that of carcinoma of the cervix. In most cases the disease advances slowly with the result that only late in the disease are the lymphatics involved. The ordinary panhysterectomy will give good results in nearly all cases.

Three-fourths of the 212 cases were so far advanced as to contra-indicate the radical operation. Hence the treatment employed was necessarily only palliative. When a patient presents herself for treatment with gradually decreasing strength from continual bleeding; is a nuisance to herself and friends; when she is weak, anemic, and septic; when there is loss of appetite and numerous other complaints—it is remarkable how well she will respond to palliative treatment. A short period of rest in bed, with good food and some form of iron will usually bring up the hemoglobin very rapidly. Then when it is safe to give an anesthetic, the necrotic, infected, carcinomatous growth should be curetted away. The actual cautery can here be used to good advantage. The application of a strong corrosive, e. g., gauze soaked in 50 or 75 per cent. zinc chlorid solution will usually result in a slough of the necrotic tissue and leave a clean granulating surface. The bleeding will then stop for a while and the discharge will disappear. Septic absorption will cease, the patient's color will improve, her appetite will return, she will be relieved temporarily of her pain, and in all respects will be much

improved. Of course the improvement is only temporary and sooner or later her old symptoms will return because only a portion of the diseased tissue has been removed.

DURATION

The duration of the disease varies with the different types of carcinoma. In general, patients with cancer of the fundus live much longer than those with cancer of the cervix. It is not uncommon for the former type of patients to live four or five years. On the other hand the cases in this series with cancer of the cervix very seldom lived beyond three years, and it was more common to see a fatal end after about two years. A few unusual cases may be mentioned; one a patient with basal-celled carcinoma of the cervix, who first appearing in the clinic fifteen years ago, has returned several times since. She returned last two years ago, and when heard from a year ago was still alive. Another patient who entered the clinic eight years ago with an inoperable squamous-celled carcinoma of the cervix was still alive and fairly well two years ago. Naturally these cases are exceptions to the general rule.

Since only a comparatively few patients with inoperable carcinoma died in the hospital the records are naturally very incomplete as regards the cause of death. Although the date of death is recorded in some instance, the terminal cause is not given. Judging from the somewhat meager records in this respect it would seem that patients with cancer of the uterus who do not die from some terminal infection are more likely to succumb to uremia than from any other cause. The uremic condition is simply secondary to an obstruction of the ureter with resulting hydronephrosis. Fatal hemorrhage is apparently a very rare occurrence in carcinoma of the uterus.

DIAGNOSIS

With our present knowledge of the treatment of uterine carcinoma the only hope lies in a positive early diagnosis. In some diseases in which the true diagnosis may be suspected early it is often proper to adopt expectant treatment and allow further observation to establish fully the diagnosis. When dealing with uterine carcinoma, however, expectant treatment is nothing less than criminal. The patient loses her only chance while we wait for the other clinical symptoms to establish the diagnosis.

Occasionally we will find that a uterine carcinoma is well advanced and the case hopeless when the first symptom appears. But fortunately, nearly all cases give warning at an early stage, and if the warning be heeded, many more patients can be saved. One is often appalled by the large number of inoperable cases of uterine carcinoma, and the question naturally arises as to why the diagnosis is not made earlier. In answering this question we must consider it both from the standpoint of the physician and the patient.

There is a general feeling of skepticism among the profession as to the end-results of surgical treatment for cancer of the uterus. Many a doctor has expressed his sincere doubts as to the advisability of attempting to cure cancer of the uterus by surgical means, hence he does not realize the importance of the early diagnosis. We must first of all convince such a practitioner that cancer of the uterus has been and is being cured by operation. He will perhaps relate various cases where the patient had a recurrence after a vaginal or abdominal hysterectomy. However, he must be shown that with the development of the radical abdominal operation as first practiced by Wertheim, a new era has been introduced, and that with the proper kind of cases, cancer of the uterus can be cured.

The practitioner's skepticism, sincere though it be, robs many a patient of her only chance of cure.

Delay in making the diagnosis when cancer of the uterus is suspected may mean an inoperable case when at last it reaches the surgeon's hands. There is but one remedy for this—the physician must be impressed by the importance of early diagnosis, and must know how to make it. He must look with suspicion on any increase in bleeding in a woman approaching the menopause. It is true that many women bleed more freely for a short time just before the cessation of the periods. In most cases an increase in flow at the change of life, no matter how slight, means disease, and in many instances the serious disease under discussion. When the patient comes to us because of bloody discharge, whether it be menorrhagia or metrorrhagia, profuse or slight, we should look on the condition as suspicious and judge it to be malignant until it be proved otherwise, nor should time be lost in determining the nature of the lesion. As we cannot differentiate in a clinical way, our only recourse is to a microscopic examination. If the cervix looks suspicious we should remove a piece for diagnosis. If the cervix appears normal the uterus should be curetted, and the specimens removed should be sent at once to a competent pathologist. After we have done this and have done it quickly, then and only then can we feel assured that we have done our duty by our patient. No doubt many excisions will be made without discovering carcinoma, but every time we find an early case we will feel repaid for our efforts.

In most cases the failure to make an early diagnosis cannot be laid at the door of the physician. The physician is helpless if the patient does not present herself for treatment. Although there is a general feeling among the laity that the change of life is a trying time for the woman, the ideas as to what should normally happen at this time are very indefinite. Almost invariably when asked why she did not consult her physician earlier, the patient replies that she thought the hemorrhage to be due to the change of life and therefore to be endured. The patients realize that they should eventually cease flowing, but consider it a normal occurrence to have this preceded by a period of excessive or irregular loss of blood. It is true that this does occur in some women who do not develop cancer, but there is no way of being sure unless every patient with irregular bleeding be curetted for microscopic diagnosis. It is absolutely essential that patients should be taught that the change of life means lessened flow, and that any increase in flow at this period may mean disease, and that it demands immediate and thorough investigation.

If the physician is on the alert and patients are trained to report the first symptoms, will we then save every patient with uterine carcinoma? Unfortunately, no; but we will then save many more than we do now. Several patients in the series were cognizant of the possibilities and reported to their physicians, who at once recognized the condition as far advanced carcinoma. One patient in particular was in the hands of the gynecologist within two weeks after the first symptom, only to find that the disease was inoperable. Fortunately such cases are exceptions.

The whole question of early diagnosis of uterine cancer then is one of education. We cannot emphasize this too strongly. This education must reach both the profession and the laity. It will require time and repeated effort, but it must be done. We can do for cancer what has been done for tuberculosis. Information should be distributed by pamphlet or reprint, rather than through the medium of the news-

paper. It can be done in a quiet way with no resulting hysteria. The day surely will come when 75 instead of 25 per cent. of cases will be operable. Instead of curing 50 per cent. of those operated, 80 or 90 per cent. will be saved.

CONCLUSIONS

1. Cancer holds fifth place as a cause of death in Michigan.

2. During the last five years the death-rate due to cancer in Michigan has increased 15 per cent.

3. Among gynecologic patients one in every twenty-five has cancer of the uterus.

4. In five-sixths of all cases of cancer of the uterus the disease is primary in the cervix, and in one-sixth of the cases it is primary in the fundus.

5. The age limit of carcinoma of the uterus is wide, from 28 to 75 years. The average age is 48 years.

6. Carcinoma of the cervix occurs most frequently between 35 and 55 years of age: carcinoma of the fundus between 45 and 65 years of age.

7. Carcinoma of the fundus develops over a longer range of years than carcinoma of the cervix.

8. Patients with cancer of the cervix present a history of child-bearing in 92 per cent. of all cases. Among patients with cancer of the fundus the percentage is 72.

9. Cancer of the uterus, although more common in parous women, may develop in nulliparæ.

10. Heredity has very little part in the development of uterine carcinoma.

11. Carcinoma of the uterus can be cured by operation. In order to obtain a cure, however, the diagnosis must be made early.

12. The early diagnosis of carcinoma of the uterus depends on giving close attention to the earliest symptoms. An increase in bleeding in a woman approaching the menopause demands a careful investigation and a microscopic examination of tissue from the cervix and fundus.

13. The first symptom of carcinoma of the uterus in 73 per cent. of cases is an increased menstrual or an irregular intermenstrual discharge of blood.

14. Watery and foul discharge and pain are symptoms occurring at a later stage of the disease.

15. Carcinoma of the uterus occurs in many healthy and robust looking women. Cachexia occurs only in advanced stages of the disease.

16. The radical abdominal operation offers the only absolute cure for carcinoma of the cervix. Carcinoma of the fundus can be cured by a less radical operation.

17. In inoperable cases temporary relief can usually be secured by a palliative operation.

18. Most of the patients afflicted with this disease die either from some terminal infection or from uremia.

19. To obtain earlier diagnoses the profession as well as the laity must be educated.

20. All women must be taught that the menopause means lessened flowing, and that any increase in flowing at this time may signify disease.

21. An organized campaign of education is necessary if more patients are to be saved from cancer in all its forms.

1131 Huron Street East.

The Journal of the Michigan State Medical Society

Published under direction of the Council.

PUBLICATION COMMITTEE:

A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
W. J. DuBOIS, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek. (Ex-Officio)

EDITOR.

WILFRID HAUGHEY, Battle Creek.

EDITORIAL COLLABORATORS:

J. V. White, Detroit, 1st District.
George R. Pray, Jackson, 2d District.
....., 3d District.
C. E. Boys, Kalamazoo, 4th District.
T. De Witt Gordon, Grand Rapids, 5th District.
C. B. Burr, Flint, 6th District.
Daniel Conboy, Bad Axe, 7th District.
B. B. Rowe, Saginaw, 8th District.
Robert E. Wells, Traverse City, 9th District.
F. E. Ruggles, Bay City, 10th District.
V. A. Chapman, Muskegon, 11th District.
E. H. Webster, Sault Ste. Marie, 12th District.
C. M. Williams, Alpena, 13th District.
Reuben Peterson, Ann Arbor, 14th District.

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A.M., M.D., Editor, 24 West Main Street, Battle Creek, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

Subscription Price $2.00 per Year, in Advance.

SEPTEMBER

EDITORIAL

Members sued or threatened should communicate at once with the chairman of the Medico-Legal committee, SUGGESTING but not RETAINING a local attorney. Power to engage local attorneys rests entirely with our general attorneys. Complications have arisen in several cases, and considerable trouble and unnecessary expense followed, because members have not observed this rule.

DIAGNOSIS IN INFANT-FEEDING

If all infants were robust digesters, or came to the practitioner without that digestive apparatus damaged, a few simple rules in feeding as mentioned here a few months ago under "Caloric Methods," or as outlined by Levy recently under "Simple Methods," in the *Journal of the A. M. A.*, would suffice. Children who do not thrive on, or do not take cow's milk properly, are disturbed by it on account of three things: The sugar added to it, the fat or the salts of the whey. Therefore the use of citrate of soda, lime water, barley water or peptonization is unnecessary and unscientific.

We must not fail to recognize and take into account, the constitutional taints described by Czerny. These are the exudative diathesis, the neuropathic diathesis and the hydropic diathesis. The first have to be fed very carefully and systematically, the second even more carefully and the third type are subject to rapid gains and losses of weight by reason of edema if a slight nutritional disturbance exists. The sugar added in modifying cow's milk is the most common cause of disturbance. It may cause vomiting and only slight regurgitation, or diarrhea. The vomit or the stool, in either case, will be sour. The cause is the feeding of a larger per cent. of sugar than the infant can digest.

Some infants fed on a milk containing a larger fat content than they can properly digest, or on top-milk mixtures, develop a definite nutritional disturbance; loss of weight, flabby muscles and unhappy, restless, poor-sleeping babies, with a dry, pale, grey or white stool in small balls that do not soil the napkin. This is the typical fat-soap stool produced by an excess of fat and the fatty acids combining with calcium and magnesium. The stationary weight followed by loss is due to the loss or waste of calcium. There may come on, as a result of these digestive disturbances, alimentary intoxication of Finkelstein. The symptoms are: Fever, change in respiration, alimentary glycosuria, loss of consciousness, collapse, gastric and intestinal symptoms, as vomiting and diarrhea, albuminuria, loss of weight and leukocytosis.

The peculiar breathing and glycosuria are usually the first symptoms. If these symptoms are mild, acute or chronic disturbances intervene. Infection may take place; the digestion and metabolism of sugar and fat are very much disturbed. Our ideas have been greatly changed by the teachings of Finkelstein regarding the proteids of cow's milk. It has been proven that the casein of cow's milk is easily digested and is not toxic, neither does it give rise to any digestive disturbance. It does happen, but rarely, that an infant passes hard casein curds. They are larger than fat curds, hard and smooth, will not dissolve in ether and become very hard in formaldehyd. They usually occur in diarrhea and are not of any pathognomonic importance. Bacteria probably play a rôle, as they never occur in stools of infants fed on boiled milk. It therefore seems that the proteid of cow's milk is as easily digested as the proteid of mother's milk, and is not an injurious factor in the hand-fed infant. Finkelstein believes, and has proven, that large amounts of cow's milk casein can be fed without producing rise of temperature, dyspeptic stools, or other untoward results, and that it is possible to feed large amounts and cure mild cases of indigestion.

Then, there is the type that die of salt starvation, if put on a food which does not contain whey or insufficient quantity of whey. These infants continue to lose weight, even if fed high percentages of fat and sugar, if the whey is insufficient. There is also the type that after a long period of digestive disturbances cannot take cow's milk because of resulting diarrhea. These infants are suffering from the salts of the whey producing an irritation of the intestinal mucous membrane. If, by a mistake in diagnosis, these infants are given a few whey feedings, the condition is much aggravated. F. E. R.

HOW WILL THEY VOTE?

The House of Delegates of the Michigan State Medical Society, at the forty-seventh annual meeting in Muskegon in July, instructed the secretary to write to the Senators and Representatives from Michigan, calling attention to the benefits hoped for from the Owen bill, and urging their support for this measure. In compliance with these instructions, the secretary wrote an identical letter to each Senator and Representative, a copy of which letter is printed on another page together with such replies as were received.

Our Representatives in Washington theoretically are, and should be, transacting our business. Morally we have a right to know what stand they will take on any great question which may come up for consideration. We must abide by whatever their decision may be, and we most certainly have a right, not only to endeavor to shape that decision, but to know how they have carried out our will in arriving at that decision. With these thoughts in mind, a footnote was attached to the letter sent to our Representatives and Senators, asking for a reply which might be published in our Journal. Only one had fortitude enough to give a reply intimating what his action would be. The balance will give it their "careful attention." Many did not reply at all.

PUBLIC HEALTH AND THE CONVENTIONS

The medical profession has fought for decades for the betterment of public health. From our professional standpoint we are more interested in the planks of the various platforms dealing with public health, than with any other plank, and we present to our readers herewith the health planks from the three great parties.

REPUBLICAN HEALTH PLANK, 1912

"It will strive not only in the nation, but in the several states, to enact the necessary legislation to safeguard the public health; to limit effectively the labor of women and children; to protect wage-earners engaged in dangerous occupations; to enact comprehensive and generous workman's compensation laws in place of the present wasteful and unjust system of employers' liability, and in all possible ways to satisfy the just demand of the people for the study and solution of the complex and constantly changing problems of social welfare."

DEMOCRATIC HEALTH PLANK FOR 1912

"We reaffirm our previous declarations advocating the union and strengthening of the various governmental agencies relating to pure foods, quarantine, vital statistics and human health. Thus united and administered without partiality to or discrimination against any school of medicine or system of healing, they would constitute a single health service, not subordinated to any commercial or financial interests, but devoted exclusively to the conservation of human life and efficiency. Moreover, this health service should cooperate with the health agencies of our various states and citizens without interference with their prerogatives, or with the freedom of individuals to employ such medical or hygienic aid as they may see fit."

PROGRESSIVE HEALTH PLANK FOR 1912

"We favor the union of all the existing agencies of the federal government dealing with the public health into a single national health service, without discrimination against or for any one set of therapeutic methods, school of medicine or school of healing, with such additional powers as may be necessary to enable it to perform efficiently such duties in the protection of the public from preventable disease as may be properly undertaken by the federal authorities, including the execution of existing laws regarding pure food, quarantine and cognate subjects, the promotion of appropriate action for the improvement of vital statistics and the extension of the registration area of such statistics, and cooperation with the health activities of the various states and cities of the nation."

ETHICS

IX. THE COLLEGE TRAINING

For the past several months we have outlined various phases of the subject of Medical Ethics not commonly considered in relation to this subject. The mention of the term Medical Ethics usually brings to mind the Golden Rule and the Principles of Ethics as adopted and published by the American Medical Association; but the subject is greater. It pervades our everyday life. There are many by-ways into which the consideration of this subject would necessarily lead us. We have touched on only a few, but we believe we have sufficiently scratched the surface to show the importance of the subject.

How many of us in the early years of our practice unwittingly or unknowingly did something which later we learned to be unwise from the standpoint of medical ethics or from the view-point of our fellow practitioner of wider experience? How many of us during our preparatory years, when we were receiving the training and the example which we should exercise and follow throughout our professional life, were given instructions in Medical Ethics and allied subjects? Many received such instructions, but these are largely the older men who studied under preceptors. Since the abolition of this valuable adjunct to the teaching of medicine the student must look to his college professor and his college course for such instruction.

Is the subject of Medical Ethics taught in our medical colleges? To answer this question, we requested the catalog of each medical college in the United States and Canada, and going over the announcements received, we find the subject of Medical Ethics mentioned in the catalogs of twenty-two schools. We wrote to the professors having this department in charge in all those schools where we could

determine his name, and were surprised at the replies received. The majority give the student a copy of the Principles of Medical Ethics of the American Medical Association, and one or two short talks on the general subject.

In a few instances, a beginning has been made. Dr. Joseph D. Bryant of the University and Bellevue Hospital Medical College, devotes twenty minutes every week or two to selective sections of the Principles of Ethics, and encourages his students to ask questions. He says:

"The students themselves seem to be deeply interested on all occasions in connection with the teaching."

While in charge of the subject in Temple University, Dr. Samuel Wolf assigned one hour to each of the members of the faculty. He made very complete outlines of the lectures to be delivered, which included not only the code of ethics, but other relations of the medical man to the community, to his patients, and to his fellow practitioners. Dr. Wolf says:

"I might incidentally say that the influence of the course carried out seems to have been very good on the graduates. I find that nearly all of them who are located here in Philadelphia are members of the county society, while this cannot be said of the other medical institutions."

Dr. William C. Woodward, of the Medical Department of George Washington University, writes:

"No formal course in that important subject is given. The desirability of such a course is, I think, unquestionable, but the time at my disposal for the teaching of the branch assigned to me, Medical Jurisprudence, is so brief, when considered in relation to the scope of the subject to be taught, that I have to content myself in so far as relates to medical ethics with calling attention to practical aspects of medical ethics in connection with other subjects that arise in the course, and with urging upon the class the importance of carefully studying the subject."

In the University of Virginia, the course includes economics and organization. There are five lectures on this subject. In the majority of colleges replying, the subject is presented formally and in connection usually with the course on Medical Jurisprudence.

Dr. C. A. L. Reed, Ex-President of the A. M. A., under date of Dec. 27, 1911:

"*My Dear Doctor:* I am delighted to know that you are taking up the subject of ethics. No topic has been so thoroughly overlooked by our medical schools during the last twenty years. I do not know of a single school, although there may be many, that is giving any attention whatever to the cultivation of what I look upon as the conscience of the profession. If ethical principles are not taught, ethical conduct will cease to obtain, and that is what's the matter with us right now. Doctors with interest in proprietary medicines, clandestine owners of drugstores, stockholders in hospitals and sanitaria, and fee-splitters in general represent the crop that we are now reaping as the result of our inattention to this very vital subject. There must be a concerted action on the part of the medical schools, the medical licensing boards, the medical societies and each individual professor, if our profession, as a profession, is to stand out against an all-pervading spirit of graft. It is a wholesome sign of the times that some editor is ready to open the campaign, and I trust you will push it hard and long. The vital question of the hour is the ethical reconstruction and reinspiration, not only of the medical profession but of the other professions, and of society in general.

"This subject has been temporarily intrusted to me in the University of Cincinnati. I am treating it from the standpoint of natural law, the law inherent in the nature of things, and the law inherent in the nature of society. I am going over it somewhat along the line of the Principles of Ethics adopted by the American Medical Association, although that document is seriously in need of revision. Some of its provisions ought to be transferred to the by-laws; others ought to be added. What is of even more importance, every professor of a practical department in every medical school ought to teach the ethical bearings in his par-

ticular subject. There is not a single topic embraced in the entire curriculum but that has such an ethical bearing, and no teacher can pretend to have presented any subject with anything like satisfactory completeness, without having taken up this phase."

We need the teaching in this age, not only of Medical Ethics, but ethics in general as related to every walk in life; but it is especially needful that young men entering on the practice of medicine should be trained in the ideals and traditions of their chosen calling, together with the relations of the true physician to the community, to his patients and his fellow. Much of this training was received under the tutorship of the preceptor.

We believe the subject is broad enough, essential enough, to be granted the dignity of a chair in each and every medical college. Our medical schools train us to practice medicine, but they usually forget to train us in the ethical or economic side of our calling. No one will deny the value of this teaching. What medical college will be the first one to accord it its full dignity?

THE OWEN BILL AND THE PURE FOOD AND DRUGS ACT

The House of Delegates at Muskegon adopted two resolutions:

"Moved by Dr. Dodge, chairman of the Council, that the secretary be instructed to send notices to each senator and representative of Michigan of the action of the society, endorsing the Owen Bill."

"Moved by Dr. Covey, of Benzie, that in a separate communication, we call the attention of all senators and representatives of Michigan to the necessity of a most thorough and impartial enforcement of the National Pure Food and Drugs Act."

Acting upon the foregoing instructions the secretary wrote each senator and representative as follows, asking as a postscript the privilege of publishing the replies for the information of our members.

Dear Sir: The Michigan State Medical Society, 2,279 members, in annual session in the City of Muskegon, July 10 and 11, unanimously instructed the secretary to urge upon your favorable consideration the Owen Bill (S No. 1) unifying the various public health agencies of the national government.

The health and happiness of our citizens is paramount. The health of our people can best be preserved by making more efficient the various health agencies now working for the government. By uniting these departments under one head there should be a saving in administrative expense, and a very marked increase in efficiency. This bill distinctly prohibits the favoring of any sect or "school" in medicine. It creates nothing new, but simply renders less incongruous the health agencies already at work. The rights of the state and of the individual are protected. The Michigan State Medical Society is unanimous in urging this measure for your favorable consideration.

Very sincerely,

WILFRID HAUGHEY, Secretary.

It is hoped that you will favor us with an answer for publication.

Dr. Wilfrid Haughey, Secretary, Michigan State Medical Society, Battle Creek, Mich.

My dear Sir: Your courteous letter, calling my attention to Senate Bill No. 1, introduced by Mr. Owen of Oklahoma, having for its object the unification of the various public health agencies of the government, has been received and noted.

In reply, I would say that the suggestions contained in your letter are very timely and most important, and worthy of the most careful and painstaking consideration, and I desire you to know that this will be my course in dealing with the subject referred to.

Assuring you of my great respect, I am

Yours very truly,

WILLIAM ALDEN SMITH.

Dr. Wilfrid Haughey, Battle Creek, Mich.

My dear Doctor: I have your favor in reference to the Owen Bill, and hasten to say that I do not believe there is any possibility of passing this measure; as originally drawn it was very objectionable to me and while I under-

stand it has been amended by its author I have not become familiar with the change. If the bill comes up it will have my most careful and conscientious attention. I cannot say anything that would be encouraging for publication for candor compels me to state that I think our present Marine Hospital Service can be enlarged if necessary, sufficiently to meet the public demands without the aid of a separate bureau. I have, however, an open mind and am ready at all times to consider any facts which may be presented.

Respectfully yours,

Chas. E. Townsend.

Dr. Wilfrid Haughey, Battle Creek, Mich.

Dear Sir: Replying to your favor of the 16th instant, wish to assure you that when the bill you refer to comes before the House, it will have my most careful consideration. If I am correct, the bill is still pending before the Senate.

I am,

Yours very truly,

J. W. Fordney.

Dr. Wilfrid Haughey, Secretary, Michigan State Medical Society, Battle Creek, Mich.

Dear Sir: I beg to acknowledge receipt of your letter of the 16th, in the absence of Mr. Wedemeyer, and to assure you that the same will receive the very careful attention of Mr. Wedemeyer on his return.

Very respectfully,

Berry N. Beaman, Secretary.

Dr. Wilfrid Haughey, Battle Creek, Mich.

Dear Sir: I have yours of the 16th, and thank you for calling my attention to the Owen Bill, Senate No. 1.

Truly yours,

Samuel W. Smith.

Dr. Wilfrid Haughey, Battle Creek, Mich.

My dear Sir: I am in receipt of your favor of the 16th, and the bill to which you refer will have my careful consideration should our Democratic friends in the House allow it to come up for consideration.

Very truly yours,

Henry McMorran.

Dr. Wilfrid Haughey, Secretary Michigan State Medical Society, Battle Creek, Mich.

Dear Sir: Your letter of the 16th instant relative to the Owen Bill, S. No. 1, duly received.

I shall be pleased to give your views in this matter very careful consideration.

Yours truly,

H. Olin Young.

Dr. Wilfrid Haughey, Secretary, Michigan State Medical Society, Battle Creek, Mich.

My dear Doctor: I wish to thank you for your valued favor calling my attention to the Owen Public Health Bill (S No. 1). This bill will not be considered this session, I understand. I will give it my earnest consideration. I do not know enough about it to give you an article for publication upon it.

Cordially and sincerely yours,

Frank E. Doremus.

Following the instructions of the second resolution the following letter was sent and replies received:

Dear Sir: At the annual meeting of the Michigan State Medical Society held in Muskegon, July 10th and 11th, 1912, it was moved, supported and carried, "that the secretary call the attention of all Senators and Representatives of Michigan to the necessity of a most thorough and impartial enforcement of the Pure Food and Drugs Act."

Many physicians have felt, for a considerable time past, that Dr. Wiley was being very materially hampered in the administration of the Pure Food and Drugs Act, so much so, that for the sake of his own dignity and self-respect he was compelled to resign; since which time, we feel that this act so extremely necessary to the health and comfort of the people, has not been vigorously enforced.

The appointment of a successor to Dr. Wiley seems imminent, hence the above resolution. The thought has occurred to a great many physicians, why cannot this law be so amended that all statements on the label, or in the descriptive advertising of a food or drug, must be true?

We respectfully submit this matter to your attention, in the hope that something will be done to improve the law and its enforcement.

Very sincerely,

Wilfrid Haughey,

Secretary.

Dr. Wilfrid Haughey, Battle Creek, Mich.

My dear Sir: Your courteous letter of July 26 calling my attention to the resolution adopted at the Michigan State Medical Society meeting held at Muskegon July 10 and 11, bearing upon the question of the administration of the Pure Food and Drugs Act has been received and contents fully noted. I am glad you have called my attention to the views of your society and would be very glad to render any service possible in the direction indicated by you.

With great respect, I am

Yours very truly,

William Alden Smith.

Dr. Wilfrid Haughey, Secretary, Battle Creek, Mich.

My dear Doctor: I have your general letter of the 26th of July in regard to the Pure Food and Drugs Act, and hasten to say that the same will have my careful attention.

Respectfully yours,

Charles E. Townsend.

Wilfrid Haughey, M.D., Battle Creek, Mich.

Dear Mr. Haughey: Your letter of the 26th received and you may be sure that the matter will receive my very careful attention.

Very sincerely,

William W. Wedemeyer.

Wilfrid Haughey, M.D., Secretary, Michigan State Medical Society, Battle Creek, Mich.

My dear Doctor: Your letter, on behalf of the Michigan State Medical Society, calling attention to certain resolutions adopted by the Society July 10 and 11, in relation to the necessity of a thorough and impartial enforcement of the Pure Food and Drugs Act, received, and I take pleasure in saying that I am in thorough and hearty accord with the subject-matter of the resolution and shall be glad to do whatever I can to assist in bringing about the best and most impartial enforcement of the Food and Drugs Act.

With best wishes, I am

Yours very truly,

Edward L. Hamilton.

Wilfrid Haughey, M.D., Battle Creek, Mich.

My dear Sir: Yours of the 26th instant received. Matters pertaining to Public Health strongly appeal to me, and I am an ardent advocate of the Pure Food Law, and all laws directed to the improvement of sanitary conditions, and their enforcement. You may rest assured I shall give most hearty support to such measures. Whenever you have specific suggestions to make remember that I will receive them most gratefully.

Sincerely yours,

Edwin F. Sweet.

Dr. Wilfrid Haughey, Secretary, Battle Creek, Mich.

Dear Sir: I am in receipt of yours of the 26th, calling my attention to the action of the Michigan State Medical Society, recently held in Muskegon, with reference to a more thorough enforcement of the Pure Food and Drugs Act, and I want to say that I am in hearty accord with the same, and I hope the successor of Dr. Wiley will be one who will reflect credit in the management of this branch of the great Agricultural Department.

Sincerely yours,

Samuel W. Smith.

Dr. Wilfrid Haughey, Battle Creek, Mich.

My dear Sir: Yours of late date came duly to hand, and I write to assure you that what you say in same will be remembered and will receive deserved consideration.

Sincerely yours,

Francis H. Dodds.

Mr. Wilfrid Haughey, Secretary, Michigan State Medical Society, Battle Creek, Mich.

Dear Sir: I am in receipt of your favor of July 27. Will you kindly inform me what amendment you think is necessary to the Pure Food and Drugs Act so that the statements on the label must be true?

I note what you say about Dr. Wiley and must beg most respectfully to differ with you. Dr. Wiley was a good official but a much better advertiser. He left the government service to make more money and I am happy to say he is doing it. In my judgment the administration of the Pure Food and Drugs Law has never been more efficient than since he left the service.

Yours truly,

H. Olin Young.

NEWS

Dr. C. D. Chapell, of Flint, fractured his right leg, while wrestling at Watkins Lake, July 28.

Before the city council of Cadillac the mayor is reported to have started a campaign for a pure water supply.

Dr. Alexander M. Campbell, of Grand Rapids, fractured his right wrist, while cranking his automobile, July 26.

Gov. Osborn has appointed Dr. J. Earl McIntyre of Lansing as first lieutenant in the medical corps of the Michigan National guard. During the camp at Ludington Dr. McIntyre will be attached to the artillery corps.

Doctors Roy T. Urquhart, Alexander MacKenzie Campbell and Burton R. Corbus, announce that they have removed their offices to the sixth floor of the new Metz Building, 112 East Fulton Street, Grand Rapids, Mich.

The common council of the city of Battle Creek at a meeting July 22, authorized the prosecution of bathers in Goguac Lake, the source of the city water supply. Goguac Lake is a summer resort, and the bathing beach is 900 feet from the intake pipe.

Surgeon General Blue, of the Public Health and Marine Hospital Service, has appointed a committee of three, consisting of Drs. L. Dixon, Lansing, chairman, J. C. Fagan, Victoria, British Columbia, and W. C. White of Portland, Ore., to meet as a conference, to study the interstate and international aspects of the leprosy situation, and to report to the Surgeon General.

Dr. Maurice Couret of New Orleans, who has charge of the Louisiana Leper Colony visited Bay City July 22 and examined Herman Hirschfield, the leper. Dr. Couret stated that the disease in this case is probably curable. Treatment will be instituted at once. He advised Humane quarantine, allowing the patient to remain inside the city limits where he may be within talking distance of friends. Louisiana has probably 200 lepers and maintains a hospital for them, but no one is compelled to go there, the disease not being considered so infectious as to render this necessary.

COMMUNICATIONS

Greenville, July 18, 1912.

Dr. Wilfrid Haughey, Secretary, Michigan State Medical Society, Battle Creek, Mich.

Dear Doctor: I have the honor to acknowledge the recipt of your note saying I have been elected honorary member of the Michigan State Medical Society. And will say I am highly pleased with the honor so graciously conferred. I wish to express my thanks to the society and its members for the compliment. I also wish to thank you for your congratulations.

Very sincerely,

John Avery.

Fort Wayne, Ind.

Dr. Wilfrid Haughey, Secretary, Michigan State Medical Society, Battle Creek, Mich.

Dear Doctor: I am just in receipt of your letter informing me of my election to honorary membership in the Michigan State Medical Society. I beg to assure you that I fully appreciate the high honor which this distinction confers, and beg to accept the same with assurances of highest regards. Permit me to thank you, and through you the Michigan State Medical Society, whose scientific and humanitarian work is quite in keeping with the great commonwealth which it represents, for the very distinguished honor conferred.

Again thanking you, I remain

Very sincerely yours,

G. W. McCaskey.

Dr. Wilfrid Haughey, Secretary, Michigan State Medical Society, Battle Creek, Mich.

Dear Dr. Haughey: The Muskegon meeting is one of my pleasantest memories and I feel very grateful to the officers of the Section for giving me such a good time.

Yours sincerely,

Otto Freer.

Dr. Wilfrid Haughey, Secretary, Michigan State Medical Society, Battle Creek, Mich.

Dear Doctor: I have received your notice of my election to honorary membership in the Michigan State Medical Society, after just returning from abroad, and I wish to express my deep sense of appreciation of the honor you have conferred upon me, and am glad to accept the election.

Yours very truly,

G. W. Crile.

State Board of Health, Michigan
Lansing, Aug. 3, 1912.

Dr. Wilfrid Haughey, Secretary, Michigan State Medical Society, Battle Creek, Mich.

Dear Doctor Haughey: The box of books belonging to the State Medical Society has arrived and has been deposited in our vault.

Very truly yours,
R. L. Dixon, Secretary.

Dr. Wilfrid Haughey Editor, Battle Creek, Mich.

My dear Doctor: Your article entitled "Hang Together," is very much to the point.

Why not take up the question of the one dollar fee paid by fraternal societies. There is little or no difference in the work.

Yours fraternally,
William J. Stapleton, Jr.

SOCIETY NEWS

AMERICAN PROCTOLOGICAL ASSOCIATION

At the fourteenth annual meeting of the American Proctological Association held at Atlantic City June 3 and 4, Dr. Louis J. Hirschman of Detroit was elected president.

Three Michigan members presented papers which are abstracted below:

The Surgery of Colonic Constipation

A Report of Thirteen Cases

By Louis J. Hirschman, M.D., of Detroit, Mich.

After presenting the histories, radiographs and reports of operative treatment of thirteen cases of obstipation due to colonic obstruction, dilatation, stricture and adhesions, Dr. Hirschman has formulated several principles in dealing with his cases requiring colonic surgery. They are epitomized in the following conclusions:

1. Most cases of chronic constipation are colonic in origin and many are obstructive in type.

2. Many cases of so-called chronic constipation are therefore really colonic obstipation.

3. Many cases of colonic obstipation suffer from chronic dilatation of the colon with or without ptosis.

4. Radiography is a most vital necessity in the diagnosis of all cases of chronic interference with bowel function. Its negative value may be greater than its positive.

5. A chronically, overdistended colon, whether adherent or not, never again becomes a normally functionating bowel.

6. Intestinal adhesions usually tend to recur in increased intensity and adhesions only cause symptoms when put under stress or tension.

7. The prevention of tension in physiologic rest to the affected organ and colonic rest is obtained only by colectomy, colostomy, or exclusion.

8. Colectomy as advocated by Lane is an operation seldom advisable and has many obvious objections from the standpoint of patient and physician. It is too grave a procedure to be undertaken except in the most aggravated cases.

9. Strictures, neoplasms, and other obstructions should be removed by excision of the diseased tissue and lateral anastomosis of the bowel.

10. Exclusion by ileo-colostomy is safe, easy to perform, and most satisfactory in the restoration of normal peristalsis and consequently normal health.

11. Results speak more eloquently than words. After an experience with nearly fifty cases requiring exclusion or resection of the colon for obstructive constipation with but one failure, I feel fully justified in recommending it to your careful consideration in all cases of aggravated colonic obstipation whether congenital, post-operative, or dependent on some mechanical obstruction or narrowing of the bowel.

Ano-Rectal Disease Due to Venereal Infection

By James A. McVeigh, M.D., of Detroit, Mich.

Venereal disease is an important factor in the etiology of disease in all parts of the human system. Regional relationship of genital organs to anus and rectum render the latter especially prone to this kind of infection. Venereal disease of anus and rectum either direct, through practice of vicious habits, or indirect, or accidental, through extension of infection to these parts from other sources. Less direct infection of this nature in this than in foreign countries. Gonorrhea, Chancroid and Syphilis, the principal venereal factors in anorectal disease. Description of symptoms, diagnosis and treatment of these conditions when appearing in disease of the rectum and anus. Report of a case.

Acute Post-Operative Intestinal Paresis

By J. A. MacMillan, M.D., of Detroit, Mich.

Definition: A paralysis of a portion of the intestine which suddenly dilates and becomes the receptacle for gas and fecal material.

Etiology: Not known, but probably due to sepsis, trauma, etc.

The lesion is probably in the sympathetic nervous system.

The treatment consists of gastric lavage, enemata and enterostomy.

Precautions attending a secondary operation were emphasized.

ALPENA COUNTY MEDICAL SOCIETY

The regular meeting of the Alpena County Medical Society was held at Long Rapids, July 18, at the home of Dr. John Purdy. Those present were J. D. Dunlop, S. T. Bell, D. A. Cameron, E. E. McKnight, F. J. McDaniel, J. W. Small, W. A. Secrist, Geo. Secrist, Otto Bertrain, A. Konoracke, L. A. Ganwian, C. M. Williams, A. E. Bonnerville, of Alpena, and Dr. Ralph Smith, of Harrisville.

Athletic exercises took up the hour before supper, the doctors practicing for a game of baseball they are shortly to play against the clergy. The ladies of the Episcopal Guild of Long Rapids assisted Mrs. Purdy in serving an excellent dinner, following which, the program of the evening was carried out.

Dr. E. E. McKnight gave a paper on "Blood-Pressure," during which he demonstrated the several methods of investigation.

Dr. J. D. Dunlop read a paper on "Advertising."

An enjoyable evening was spent at Long Rapids, and all felt they were well repayed for the long automobile ride.

The meeting of August 15 was a social one, at which the members had their wives as guests. The meeting was in the nature of a picnic. The members and friends gathered at Becks Hotel, Long Lake, at four in the afternoon. The time till dinner was served, was taken up with launch rides, and social conversation. The ladies supplied the program for the meeting, which consisted in recitations by Miss June Dunlop and Mrs. C. M. Williams, and addresses by Mrs. W. A. Secrist, Mrs. S. T. Bell, Mrs. A. J. Wilkinson and Mrs. J. D. Dunlop.

Dr. Chas. D. Aaron and wife of Detroit, who were present as the guests of the society, also addressed the meeting.

Altogether the First Annual Picnic of the Alpena Medical Society was a success.

C. M. WILLIAMS, Secretary.

OAKLAND COUNTY MEDICAL SOCIETY

On June 6, the last meeting of the Oakland County Medical Society was called to order by the president, Dr. E. A. Christian, at Hotel Bellevue, Lake Orion. After the preliminary business was attended to a vote on the amendment was taken. It was evident that the members wished to have meetings every two months, as there were 36 votes in favor of said amendment and only one opposed.

Dr. C. W. Mack's paper on "Malignant Endocarditis" was very interesting and was followed by considerable discussion. He brought the pathological specimens to illustrate the case.

Dr. H. E. Randall, of Flint, gave us a most excellent paper on "Membranous Pericolitis" that was enthusiastically received. The members present considered themselves very fortunate in being able to hear Dr. Randall and about the Jacksonian membrane and gave the doctor a unanimous vote of thanks for being present with us. We hope that the doctor will meet with us again at some future time.

Following the meeting the members took in the sights, had an appetizing meal at the hotel and returned home.

J. B. CHAPMAN, Secretary.

UPPER PENINSULA MEDICAL SOCIETY

The Upper Peninsula Medical Society met in Menominee, Aug. 7 and 8, 1912, for their twentieth annual meeting. There were about forty in attendance to listen to a series of especially good papers.

The meeting was called to order by Dr. B. F. Phillips, of Menominee, and Rev. A. W. Bill, of Menominee, pronounced the invocation. Dr. C. L. Girard, of Escanaba, president of the Upper Peninsula Medical Society, was then introduced, and delivered an address, dealing with Medical Education (this address will appear in a future number of the JOURNAL). Other papers were read by Dr. H. A. Vennema, of Menominee, on "Chronic Appendicitis, Its Diagnosis and Differential Diagnosis from Other Intestinal Pathology"; by Dr.

M. D. Bird, of Marinette, Wis., on "Emergency Surgery"; by Dr. Edward Sawbridge, of Stephenson, on "Eclampsia"; by Dr. R. A. Walker, of Menominee, on "Ruptured Ectopic Gestation and Its Differentiation from Acute Appendicitis"; by Dr. A. L. Laing, Rapid River, on "Cancer of the Uterus", and by Dr. H. J. Hornbogen, Marquette, on "The Faucial Tonsils."

Adjournment was then taken until 8 p. m. at which time a banquet was tendered to the visitors by the Menominee County Medical Society. Forty persons were present at the banquet, which was characterized by the usual completeness with which the Menominee men do things. Not a moment was dull, and the viands and toasts were the best possible. The banquet broke up during the "wee sma' hours".

On the morning of Aug. 8, the members met on board the yacht "Bonita," belonging to Senator Isaac Stephenson, and crossed the Bay to Fish Creek, Wis., for lunch. While crossing the Bay, the program was continued as follows:

Dr. E. M. Libbey, Iron River, read a paper on "Some Surgical Aspects of Obstetrics Met with in General Practice;" Dr. H. T. Carriel, Marquette, read a paper on "Something Definite Regarding Dyspepsia."

The Committee on Resolutions, made the following report, which was adopted.

"Mr. President and Members of the U. P. Medical Society.

"We, the members of your Committee on Resolutions, beg to offer the following:

"First: Resolved that it is the sense of this society that there should be enacted laws giving to the State Board of Health the power to compel all cities, villages, and communities in the State of Michigan, to supply good and wholesome water for the use of its inhabitants, and thereby protect the people of the State at large from disease communicated by people exposed to the contagion carried by impure water, and from contagion directly by water of this character.

"Second: Resolved that the members of this society approve of the provisions of the Owen Bill, now or soon to be before the Congress of the United States, and that we urge upon the Representative of the 12th District, and the Senators of the State of Michigan their support for this measure, Resolved further that it is the sense of this society that there should be created at the hands of our National legislators a department of health, officered by competent sanitarians, to the end that the people of this United States be afforded the full protection from disease warranted by the present state of our knowledge concerning its prevention. Further, that we deplore the recognition given selfish or ignorant interests in matters affecting the Public Health and the welfare of the country.

"Third: Resolved that in villages, cities, and communities in the State of Michigan, the wisdom and advisability of making a licensed graduate in medicine a member of their Board of Health where such is not now the case be pointed out; and that the health officers be granted greater power, to the end that the people of the state be given better and more prompt protection in matters affecting the Public Health. The present methods of procedure compel the health officer to act upon the initiative and dictates of the Boards of Health which are frequently composed entirely of laymen, and not upon his own initiative, when he by reason of his more intimate acquaintance with conditions and facts, would frequently be able to stamp out at their incipiency diseases and nuisances.

"Fourth: Resolved that the members of the Upper Peninsula Medical Society, show their appreciation of the presence and assistance of Dr. Haughey, Secretary of the State Medical Society, by a request to the Council of that Society, that his services be retained over another term, his competence and his interest in the welfare of the medical profession of the State warranting such indorsement.

"Fifth: Resolved that the Upper Peninsula Medical Society extend its heartfelt thanks to Senator Isaac Stephenson, of Marinette, Wis., for his generosity in placing at their disposal his yacht "Bonita" on this the occasion of their annual meeting at Menominee.

"Sixth: Resolved that the thanks of this Society be extended to Dr. C. J. Ennis, of Sault Ste. Marie, Mich., for his interest and helpfulness whilst Councilor for the 12th District of Michigan. Resolved further, that the name of Dr. E. T. Abrams of Dollar Bay, be presented to the House of Delegates of the State Medical Society as a worthy successor to Dr. Ennis.

"Resolved, that the thanks of this society be extended to Dr. C. L. Girard of Escanaba, president, and Dr. C. R. Elwood of Menominee, secretary, and to the other officers of this soci-

ety for the interest and good work on behalf of the society during the past year.

"The whole respectfully submitted."

R. A. Walker,
E. M. Libbey,
A. L. Laing,
Committee on Resolutions.

Marquette was selected as the place for the next meeting.

Dr. Edward Sawbridge, of Stephenson, was elected president of the society, Dr. H. Smith, of Ishpeming, first vice-president, Dr. F. Larson, of Crystal Falls, second vice-president, and Dr. H. J. Hornbogen, of Marquette, secretary.

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1912, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies."

Purified Extract of Adrenal Gland, Mulford, is an extract of the suprarenal gland, standardized physiologically by measuring its effect on blood-pressure and so adjusted as to correspond to the effect of 4 per cent. of purified epinephrin. It has therefore approximately four times the strength of desiccated suprarenal gland U. S. P. It is marketed as follows: Adrenal Ointment, Mulford, containing purified extract of adrenal gland, Mulford 25 parts, boric acid 1 part in 1,000 parts. Urethral Suppositories Adrenal Comp., Mulford, each containing purified extract of adrenal gland 0.06 gm. (1 grain), cargentos 0.13 gm. (2 grains). Vaginal Suppositories Adrenal Comp., Mulford, each containing purified extract of adrenal gland 0.06 gm. (1 grain), cargentos 0.13 gm. (2 grains), ichthyol 0.13 gm. (2 grains). K. Mulford Co., Philadelphia (*Jour. A. M. A.*, July 13, 1912, p. 121).

Articles Accepted for N. N. R. Appendix:

Lozenges Adrenal Comp. each containing dried suprarenal gland 0.01 gm. (1-6 grain), menthol 0.0013 gm. (1-50 grain), benzoic acid 0.0026 gm. (1-24 grain), eucalyptol 0.0013 gm. (1-50 grain).

Rectal Suppositories Adrenal each containing dried suprarenal gland 0.3 gm. (5 grains) (*Jour.* A. M. A., July 13, 1912, p. 121).

Syrup of Quinine with Chocolate containing quinine sulphate 2.156 gm. in 100 c.c. (10 grs. in a fluidounce).

Ointment of Cargentos and Ichthyol containing cargentos 5 per cent. and ichthyol 5 per cent. (*Jour. A. M. A.*, Aug. 3, 1912, p. 369).

THE TRUTH ABOUT MEDICINES

It is the purpose of this department to encourage honesty in medicines, to expose frauds and to promote rational therapeutics. It will present information regarding the composition, quality and value of medicaments, particularly as this is brought out in the reports of the Council on Pharmacy and Chemistry and of the Chemical Laboratory of the American Medical Association.

Patent Medicines Here and In Great Britain.—The federal food and drugs act is not what it should be and its usefulness has been further decreased by the recent decision of the Supreme Court which permits false statements regarding curative value. Nevertheless the enforcement of this law has brought about many reforms as is shown by a comparison of the labels used for patent medicines in this country with those used for the same articles when sold abroad. Stearns' Headache Cure is one of the titles abandoned because of the food and drugs act, the term "Shac" being substituted. Further, evidently wishing to retain the patronage of physicians, this headache remedy is now sold in this country as being put out by the Zymole Company, New York. In England the name of Frederick Stearns & Co. still appears in connection with the remedy and the name Stearns' Headache Cure is also retained. While in this country the claims relative to its curative effects and its harmlessness have been eliminated the English label still claims that it is a cure for headache and that it contains nothing injurious. Syrup of Figs and Senna is the title now used for what was formerly sold as "California Syrup of Figs." This change was made necessary because the food and drugs act required that the name of the product be so modified as to incorporate in it the words "elixir of senna"—

this for the reason that the purging action of this preparation depends on senna. In Great Britain the preparation is still sold under the false title. Doan's Kidney Pills, while sold in this country as a remedy, in England is claimed to be a "specific" even in the following conditions: "lame back," "cold in the back or kidneys," "gravel," and "retention and incontinence of urine." Dr. Kilmer's Cough Cure is still sold in Great Britain under this title, but in this country it has become known as "Dr. Kilmer's Cough Remedy." Swamp Root in Great Britain still bears the same labels as those used in this country before the federal food and drugs act caused Dr. Kilmer & Co. to assume a conservativeness of statement entirely foreign to its nature. While thus the food and drugs act has done much to eliminate direct falsehoods it should be considerably strengthened, particularly so as to make illegal false statements regarding therapeutic effects and also so that the law will take cognizance not only of statements made on the labels, but also of statements which appear in circulars, in newspaper advertisements and on bill boards (*Jour. A. M. A.*, July 20, 1912, p. 209).

The Point of View.—In a nostrum advertisement recently printed in a daily newspaper, three endorsements from "doctors" were prefaced with this engagingly ingenuous statement: When a doctor endorses a preparation it means more than an ordinary testimonial. His opinion is always that of the professional man devoted to the welfare of the people. It thus appears that when a doctor endorses a nostrum, then "his opinion is that of the professional man devoted to the welfare of the people." But when the doctor condemns the dope or advocates any measure that will compel honesty in business, then he is "trampling on the liberties of the people," and seeking to form a "medical trust!" (*Jour. A. M. A.*, July 27, 1912, p. 282).

A German Council on Pharmacy and Chemistry.—An appreciation by German physicians of the need for reform in proprietary medicines has finally culminated in the establishment of a German Council on Pharmacy and Chemistry to be known as "Die Arzneimittelkommission des Kongresses für innere Medizin." In a preliminary report this commission has classified the advertisements for proprietary medicines, which appeared in German medical journals during 1911, into three classes according to certain rules which correspond essentially to those of the A. M. A. Council. As was to be expected German manufacturers are opposing this newly established council. One phase of this protest is especially characteristic of Germany's tendency; it is charged that this report is liable unfavorably to affect the sale of German proprietaries in foreign countries. To those physicians who feel that patriotism demands the support and advancement of all German industry regardless of its character, we would say that the time has long passed when we in this country took as gospel truth the claims made for German proprietaries (*Jour. A. M. A.*, July 27, 1912, p. 291, and Aug. 10, 1912, p. 452).

The Physician and Drug Standards.—In view of the decision of those who are in control of the revision of the U. S. Pharmacopeia and of the National Formulary to make the first a book of standards for drugs, regardless of their therapeutic value, and the latter a book of formulas, good, bad and indifferent, Henry P. Hynson, a pharmacist, proposes that two other books should be published. The first book is to contain those drugs which the medical profession deems valuable and its scope is to be determined by the American Medical Association. The second book is to contain the pharmaceutical preparations made from the drugs contained in the first book and is to be prepared by the American Pharmaceutical Association. There has long been a demand for a book restricted to the really useful remedies, particularly by medical teachers and state board examiners and it is quite probable that one will soon be announced by a committee created for the purpose by the Council. The proposition of Hynson is a recognition of the fact that the two present standards, the Pharmacopeia and the National Formulary, do not fulfil the practical requirements of practicing physicians, teachers and examining boards (*Jour. A. M. A.*, July 27, 1912, p. 291).

Certified Pharmacies.—The plan of examining pharmacies and issuing licenses to those which are found properly equipped, competent and reliable was recently proposed at a joint meeting of the Medical Society of the County of New York and the New York branch of the American Pharmaceutical Association. While the establishment of requirements for such certifications should be carefully considered, the need of a dividing line between the druggist whose enegies are chiefly devoted to the sale of cigars, chewing-gum, soda-water and patent medicines, and the pharmacist to whom one

may safely entrust the compounding of prescriptions is so urgent that we shall look forward to the outcome with much interest (*Jour. A. M. A.*, Aug. 10, 1912, p. 461).

Midol and Nurito.—Repeated warning to the public of the dangers of acetanilid, antipyrin and acetphenetidin has largely been responsible for the growing unpopularity of nostrums containing these drugs. As a result pyramidon, a product closely related to antipyrin, is entering the patent medicine world in the form of "Midol" and "Nurito". Midol is exploited by the General Drug Co. which appears to be connected with the Consolidated Color and Chemical Works and Victor Koechl & Co. Examination made in the Association's Chemical Laboratory indicated that the headache remedy "Midol" consists essentially of pyramidon, while Nurito consists of powders each containing pyramidon 6 2-3 grains and phenolphthalein 2-3 grain (*Jour. A. M. A.*, Aug. 10, 1912, p. 461).

Hormonal.—Hormonal was accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies, in view of the favorable reports concerning its action which have been made in the literature. Since its acceptance, a number of cases have been reported in which more or less alarming collapse has occurred during or immediately following its administration. The collapse is attributed by Zuelzer, the originator of the preparation, to an impurity of albumose. It is evident that the remedy should be employed with great caution (*Jour. A. M. A.*, Aug. 10, 1912, p. 465).

Vaccines and Serums, Control of.—The many serums, vaccines and antitoxins which are sold in this country bear the statement "Licensed by the Treasury Department" or "U. S. Government License No. —" and "Guaranteed under the Food and Drugs Act." The latter statement means only that in case of legal difficulty the retail dealer may shift the responsibility to the manufacturer. The first two statements mean that the products are manufactured under a license issued by the United States Treasury Department after an inspection of the establishment and examinations of the products themselves. The products are examined in the Hygienic Laboratory of the United States Public Health and Marine-Hospital Service, for the presence of living organisms, especially of pathogenic organisms, the presence of tetanus toxin, the control of the strength of the preparation, so far as this is possible, the absence of adulterations, etc. Unfortunately, however, there are many products whose value has not been established and others, though of value, which can not be standardized and hence certain products are advertised and sold which have little or no therapeutic value and yet bear a government license. In view of the increasing extravagance of claims made for this class of products it is important that the Council on Pharmacy and Chemistry exercise the same watchfulness over serums and vaccines that it has exercised over other products (*Jour. A. M. A.*, June 1, 1912, p. 1687).

BOOK NOTICES

Differential Diagnosis. Presented through an analysis of 385 cases. By Richard C. Cabot, M.D., Assistant Professor of Clinical Medicine, Harvard Medical School. Second edition. Octavo of 764 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, $5.50 net.

This is a second edition of Dr. Cabot's Practical Work on Differential Diagnosis. The plan is radically different from so many books on Differential Diagnosis. This work is a clinic in itself—being reports of 385 cases carefully analized and presented, including illustrations and diagrams. The general plan of case presentation is: presentation of case giving, history and symptoms, followed by a discussion, the outcome, and the diagnosis. The field covered in this volume includes headache, lumbar, general, abdominal; epigastric, right and left hypochondriac, right and left iliac and axillary pains, pain in arms, legs, feet, fever, chills, coma, convulsions, weakness, cough, vomiting, hematuria, dyspnea, jaundice and nervousness.

Each chapter consists of an introductory discussion of the general subject, followed by the presentation of cases bearing upon the subject.

Immunity: Methods of Diagnosis and Therapy and Their Practical Application. By Dr. Julius Citron, Assistant at the University Clinic of Berlin, Second Medical Division, Translated by A. L. Garbat, M.D. 27 illustrations, 2 colored plates and 8 charts. Philadelphia: P. Blakiston's Son & Co., 1912. $3 net.

Only a few years ago the subject of immunity was of theoretical interest, but of only passing practical importance. The last decade has witnessed such remarkable advancement in this field of medicine, both curative and preventative that we most welcome with pleasure any

handbook that will place before us the essentials and practical application of this aid to our work. The present volume presents not only the theoretical side of the questions of immunity, but the practical application, giving details and reasons why.

There are chapters on Active Immunity, Tuberculin Diagnosis, Tuberculin Therapy, Toxin and Anti-Toxin, Ferment and Antiferment, Agglutination, Precipitins, Cytolysins, Methods and Technic of Complement Fixation, Phagocytosis, and Passive Immunity.

The style is far removed from that of the ordinary translation, being free and easy, as well as exact and full of meat.

CYCLOPEDIA OF AMERICAN MEDICAL BIOGRAPHY. By Howard A. Kelly, M.D., Professor of Gynecologic Surgery at Johns Hopkins University, Baltimore. Two octavo volumes averaging 525 pages each, with portraits. Philadelphia and London: W. B. Saunders Company, 1912. Per set: cloth, $10 net; half morocco, $13 net.

Dr. Kelly has presented at the beginning of Vol. 1 a short history of each separate specialty in American Medicine, then follows the biographical part. Many workers have contributed to this cyclopedia, Leartus Connor having charge for Michigan. Names of Michigan's departed physicians appear which are strange even to ourselves: Henry Bellisle, Detroit, 1675-1717; Jean Chapoton, Detroit 1690-1760; Geo. Christian Anthon, Detroit, 1734-1815; Wm. Beaumont, Mackinac 1785-1853; Zina Pitcher, Detroit 1797-1872; Douglas Houghton, Detroit 1809-1845. Besides these is a long list of notables in Michigan Medicine: G. P. Andrews, J. H. Beech, E. J. Bonine, Wm. Brodie, H. S. Cheever, E. P. Christian, W. H. DeCamp, S. H. Douglas, E. S. Dunster, W. M. Edwards, D. O. Farrand, Elizabeth M. Farrand, C. L. Ford, G. E. Frothingham, Moses Gunn, W. J. Herdman, H. O. Hitchcock, E. W. Jenks, J. H. Jerome, R. C. Kedzie, C. J. Lundy, H. F. Lister, Donald Maclean, J. F. Noyes, Manlay Miles, A. B. Palmer, Foster Pratt, A. B. Prescott, Abram Sager, N. D. Stebbins, Morse Stewart and C. M. Stockwell.

Only one inaccuracy, and that typographical, is found: Dr. W. J. Herdman's years are given 1848-1896. In the text the year of death is correct—1906.

A COLLECTION OF PAPERS (Published Previous to 1909). By William J. Mayo, M.D., and Charles H. Mayo, M.D. Two octavo volumes averaging 550 pages each, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Per set: cloth, $10 net.

A valuable collection of papers published by the Mayos prior to 1909, giving detailed descriptions of their best thought and effort at the time and describing fully the many advances in the field and technic of surgery prepared by these competent operators and authors. An extensive description of surgical technic as practiced by these men is contained within these two volumes, desirable and popular books to own.

LABORATORY METHODS, with special reference to the needs of the general practitioner. By B. G. R. Williams and E. J. C. Williams, with an introduction by Victor C. Vaughan. Illustrated. St. Louis: C. V. Mosby Company, 1912. $2.

In the first chapter, the authors list a modest laboratory equipment suitable for the general practitioner, and point out means of overcoming various difficulties, thereby economizing in material and expense.

A caution is sounded as to laboratories whose report should be accepted. Every physician should so far as possible do his own laboratory work, or at least know the technic and care exercised.

The description of technic is thorough and the technic advocated is as simple as consistent with good results. A valuable feature of this book is the fact that the conditions producing certain laboratory reactions are given.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M.D., and L. F. Appleman, M.D., June, 1912. Lea & Febiger, Philadelphia and London. $6 per annum.

This volume of Progressive Medicine contains Hernia, by Wm. B. Cole; Surgery of the Abdomen Exclusion of Hernia by J. C. A. Gerster; Gynecology by John G. Clark; Diseases of the Blood, Diatetic and Metabolic Diseases, Diseases of the Thyroid Gland, Nutrition, and the Lymphatic System by Alfred Stengel; Ophthalmology by Edward Jackson and an index.

Each collaborator has repeated faithfully and fully the advances in the field assigned to him. Under Diatetic Methods, Tables of Food Values are given and the several late theories of treatment. In discussing Exophthalmic Goiter, Kreake's plea for the abandonment of the old name and the substitution of "Thyreosis" to degenerate diseases due to the thyroid gland is favorably commented upon.

DIGESTION AND METABOLISM. The Physiological and Pathological Chemistry of Nutrition for Students and Physicians. By Alonzo Engelbert Taylor, M.D., Rush Professor of Physiological Chemistry, University of Pennsylvania, Philadelphia. Lea & Febiger, Philadelphia and New York, 1912. Cloth, $3.75 net.

A very timely and practical book on a subject of deep interest to the profession and one that, formerly at least, was badly neglected.

In an interesting manner the author teaches the composition of food-stuffs, their chemistry, and the theory of ferment actions, then passes to digestion proper. Vividly he pursues this through the mouth, stomach, and intestines. Interestingly he shows the action of the Pancreatic secretion, the bile, and the intestinal juices, and finally the necessity of all these functions being normal. From the regulation of heat and energy, the study of the feces and bacteria in digestion, he passes to metabolism, which is discussed at length as it occurs in both health and diseases. The metabolic peculiarities in diabetes are treated exhaustively. Inanition, normal diet, over-nutrition, the regulation of body heat, and temperature and disturbances in fever, are considered in the final chapters. The work is scientific, interestingly written, full of important information to the student and practitioner. The reviewer has only favorable criticism for it.

Pellagra. History, Distribution, Diagnosis, Prognosis, Treatment, Etiology. By Stewart R. Roberts, S.M., M.D., Associate Professor of the Principles and Practice of Medicine, Atlanta College of Physicians and Surgeons, Atlanta, Ga.; Physicians to the Wesley Memorial Hospital; formerly Professor of Biology in Emory College. With eighty-nine special engravings and colored frontispiece. St. Louis: C. V. Mosby Company, 1912.

The great advance in the distribution of pellagra during the past few years, has removed it from the class of diseases that has been usually considered as circumscribed geographically, and placed it among those that must in the future, be considered as almost world-wide.

The practitioner, especially in the country, let his location be north or south, must realize the fact that he is daily liable to be confronted with this, to him possibly, new disease. It has been our want to delve deeply into the pathology, history, treatment, etc., of diseases that we are most likely to meet in our own locality, leaving those of other localities to be studied by men located there. Pellagra has been looked upon as a tropical disease. This view must be abandoned. Reports show that it has made, and is making wide excursions, and encroaching more and more in northern localities. The literature on Pellagra has been confined largely to treatise on diseases of the skin, and where it has been mentioned in works on practice of medicine, it has gained merely a passing notice. It is therefore, with pleasure, that the reviewer encounters the above work on Pellagra, a work that treats the disease in every phase, a monograph on the subject that imparts to the student a knowledge of the disease, that so far has been difficult to obtain outside of its particular field and by personal contact. Disclaiming any special knowledge on the subject, the reviewer of this book is not in position to criticise, but the scope of the work, giving as it does the effect of the disease on the different systems, digestive, nervous, cutaneous, etc., the large number of cases reported, the beautiful engravings, illustrating the conditions, and the chapters on the causation, makes him believe the book to be, if not the best, certainly a most valuable asset to any practitioner.

Pellagra must be reckoned with everywhere. We must therefore study this disease in localities, where previously it has not been.

The Practical Medicine Series. Comprising ten volumes of the Year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M.D., and Charles L. Mix, A.M., M.D., Chicago. The Yearbook Publishers, 1912. Set, $10 net. Vol. I, Medicine, edited by Frank Billings, M.D., and J. H. Salisbury, M.D., Net, $1.50. Vol. II, Surgery, edited by J. B. Murphy, A.M., M.D., LL.D. Net, $2.

Volume I., Billings and Salisbury, is devoted largely to respiratory diseases, those of the circulatory organs, of the blood, metabolic diseases, and those of the kidney. Volume II., Murphy, is devoted entirely to general surgery. As is well known, these books are reviews of all that is new in the subjects treated for the year. Enumeration of the points considered, would be tedious, but any practitioner wishing to keep abreast of any branch, can certainly do so by the aid of these works, which have been compiled from the best that has been accomplished during the year, and by authors competent to make the compilations. The high standard of previous years is maintained for 1912.

International Clinics. A Quarterly of Clinical Lectures and Especially Prepared Original Articles by Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D. Volume II, twenty-second series, 1912. Philadelphia and London: J. B. Lippincott Company. Net, $2.

The articles in this number are true monographs upon their respective subjects, being full but not verbose or tiresome. Under the Department of State Medicine is a full discussion of the National Insurance Act (1911) for the United Kingdom, by J. W. Ballantyne of Edinburgh. This is the act which is meeting so much opposition from the employers and the British Medical Association, and should be studied by Americans, because many believe the same conditions which brought this act into being are well intrenched in our own land.

The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

Vol. XI BATTLE CREEK, MICHIGAN, OCTOBER, 1912 No. 10

ORIGINAL ARTICLES

A PLEA FOR A COMBINED SCIENTIFIC AND LITERARY COURSE PRELIMINARY TO THE STUDY OF MEDICINE*

CHARLES L. GIRARD, M.D,
Escanaba, Mich.

Among the several questions that are at present agitating medical circles in this country, that of education has assumed a rank of first importance, as the numerous articles appearing in our periodicals during the last few years amply testify; therefore, we think it unnecessary to apologize for presenting this subject for your consideration in this address. But in exposing our views of the matter, we will limit ourselves to the nature of the training which the youth who feels in himself a vocation for the practice of medicine (and no other should presume to attempt it), ought in reason to undergo, preliminary to the study of medicine proper.

That some preparation to the study of the latter be necessary is now generally conceded, for it is inconceivable how crude minds shall be able to grasp without unusual efforts, and a correspondingly greater demand on their time, the mass of scientific facts which constitutes modern medical education; but in what this preparation particularly consists, which studies should be received and which omitted, is not so apparent, and many and various, even opposite and exclusive, are the views on the subject.

The mere matter-of-fact men recognize as helpful, only the studies closely allied to medicine, and which may be said to be either directly conducive to a better understanding of the principles of some of the branches of medical science or some source from which they derive their life and their power of expansion, each step in the progress of the former allowing a corresponding advance in the latter. Such men would be content to comprise in their curriculum botany, chemistry, physics and perhaps psychology; to all others they would deny admittance as irrelevant and, therefore, unnecessary.

Others of a more liberal cast of mind would be willing to add to the preceding zoology, philosophy, mathematics, geology even, and astronomy; in short, all other

* President's Address at the Twentieth Annual Meeting of the Upper Peninsula Medical Society, Menominee, July 7-8, 1912.

matters commonly taught in a good college or university.

Others again, of still broader views, are of opinion that a classical course, that is, the study of languages both ancient and modern, along with general history, literature and rhetoric, are not to be dispensed with in the proper training of one in whom culture and refinement are imperatively required, and expected as a matter of course.

Now, it seems to us that, in defining the character of a course preparatory to medicine, one must take into consideration not only what the medical student should know to render his task easier and give him a firmer grasp of the problems that shall confront him, but also what the full-fledged graduate shall find to his advantage to possess, in the various situations of life, into which so exacting a vocation, as is the practice of his art, may eventually throw him.

For the physician of the future will be more than ever required to be equipped with a certain stock of general sciences, because he will, more than his predecessors ever were before, be brought in contact with men of most diversified knowledge; with them he may have to discuss topics of great social import, with them he will be called on to act in concert for the betterment of hygienic conditions; and it will not redound to his honor, and may even cast a doubt on his real efficiency in his own line of acquirements, if he be found deficient in such general knowledge as is expected of him; and the consciousness of his inferiority in all intellectual culture will not only prove humiliating to himself, but may stand in the way of his usefulness, and prove a woful check on his legitimate ambition. Laboring under these impediments, how will he be able to pursue with advantage certain lines in medical researches, if later on he feels inclined to such undertaking; and above all, success should crown his efforts, how pr sent the result of his labors in that elega and forceful style which commands atte tion and carries conviction, without bei well founded in literary accomplishment For, as Channing puts it, "a man of mo than ordinary intellectual vigor may, f want of expression, be a cipher witho influence in society."

There is no difficulty to understand ho the sciences of the first class above me tioned, which have been aptly enou termed "collateral sciences," may promo a rapid advancement and final masteri of those others which are purely medic Through their correlation with each othe the thorough comprehension of one brought with cumulative effect to bear all the others, and the sum total of the combined influences is powerful indeed the final object to be attained. Therefor we may take their acceptance as grante

But what connection is there betwe the subjects which we have classed in t second category and the study of med cine? None; or at least, very little; b with the physician himself, both duri his time of probation as a student a afterwards, as an active practitioner, very intimate one, and fraught with i portant consequences. Therefore, we not propose their adoption as a direct he to the student in his labors, but rather so far as they are a means of developi all the faculties of the mind, each in i own way, and putting them in a state greater receptivity.

Through the mathematics, the stude will acquire the habit of concentratio without which none will ever succeed any intellectual pursuit of a serious a practical nature, while, together with phi osophy, it divides the power of discipli ing the reasoning faculties through whic from known premises, one infallib

arrives by a series of deductions to a logical conclusion; in a word, they exercise and sharpen the judgment.

The review of the animal kingdom, from the beasts of the fields and forests and the birds of the air, down to those marvelous forms of life teeming in the depths of the ocean, broadens the mental horizon. The wonders of geology will tempt the student into the most captivating speculations as to the constitution and history of the globe which he inhabits; he will follow its development until, step by step, and by a process occupying untold ages, it has finally become a fit habitation for creatures endowed with intellect. In astronomy, the student will be explained the laws that govern the motions of the celestial bodies; he will watch them rushing with tremendous velocity, along their appointed paths; his imagination will be allowed to wander through realms of space infinite and, assist, so to speak, in the birth of new worlds.

We have come now to those studies to which we have assigned the third place in our classification. Last to be treated, not because they are estimated least, but because they require a longer discussion for the very reason that, as they seem to bear no relation to medicine, they have been a butt to more numerous objections, and have had a greater number of detractors.

Great and manifold are the advantages offered by the study of languages, both ancient and modern. Besides the practical use to be directly derived from the acquirement of the latter, the daily translations of both ancient and modern languages, will in time confer on the student a perfect command of his own; that is, the mental effort necessitated to construct a sentence as clear, elegant and forcible as your mother tongue will permit, and which at the same time keeps closest to the exact meaning of the original will bestow on you that ease and felicity of expression which is so necessary to possess to obtain a welcome hearing in social or scientific circles, which the precepts of rhetoric alone cannot effect in the same degree. Add to this the keeness of discernment required often to seize on the exact thought of the author, and the insight gained into the literature of the languages under consideration.

General history displays, as in a panorama, the various stages of civilization; first primeval man fighting for mere existence, his social instinct leading him into the slow and gradual formation of society, from the family to the tribe, and then into the nation; the causes of the rising and fall of empires; man's ceaseless groping toward moral light and his struggles with the forces of nature, until he has succeeded already in harnessing many of them, and promises, if given time, to master them all.

What a theme for a youth's meditations! What lessons may be derived from it! The communing with the great men of yore, whose personality looms up gigantic through the perspective of long ages, with the shining lights of more modern times, with all those who, in diverse ways, have benefited humanity by directing it in the path of progress, cannot fail to instill enthusiasm in his heart, and a wholesome desire to walk in their steps.

The study of the best productions of the best writers, orators and poets who have shed luster on their age and country; the committing to memory even of those selected passages which represent their best thoughts and show the heights to which the human soul can climb, will refine and enlarge the affections, embellish the mind and leave in it impressions that no vicissitude of life can alter or efface,

nor age can wither. How happy the man who can at all times find a genial companionship in his own thoughts! How strongly armed is his heart against

"The slings and arrows of outrageous fortune —and the spurns that patient merit of the unworthy takes."

Taken collectively, these studies have been called *"litteræ humaniores"*—humanizing studies, as if to say that they infused in the mind and heart those ideals and aspirations, and form that character that distinguishes the man who leads the higher life and has attained to the ultimate type of his species—the true and good man. In his defense of poetry, Shelly expresses himself in these terms:

"A man, to be truly good, must imagine intensely and comprehensively; he must put himself in the place of another and of many others; the pains and pleasures of his species must become his own. The great instrument of moral good is the imagination, and poetry administers to the effect by acting upon the cause."

This all too brief sketch of the subjects taught in a collegiate course has been to us a labor of love, and willingly would we have amplified our theme had we not been deterred by the dread of testing your patience beyond limits. But the subject of this address shall be attained if we have succeeded in persuading you that the study of the *"belles-lettres"* cannot be separated from that of the sciences if a result worthy of the end is to be achieved. For, as Huxley says:

"I am the last person to question the importance of a genuine literary education, or to suppose that intellectual culture can be complete without it. An exclusive scientific training will bring about a mental twist as surely as an exclusive literary training."

In other words, they are complementary to each other, and the effect of their combined influences shall be a well-balanced mind.

Objections will arise, however: "Have we not very efficient men who never went to college, who are enjoying a well-merited reputation, and have even become leaders and shining lights in the profession?" Aye truly; and for each of these, half a hundred others devoid of principles to keep in leash their ambition, of ideals to guide it toward a worthy object. It is mostly from the ranks of such men that have issued those who have commercialized medicine and have strained nearly to the breaking point the credit for lofty aims and altruism which our profession had dearly earned by a long period of disinterested and unremitted services; a deplorable state of affairs which is now causing so much concern among the best representatives of our craft.

"But seven or eight years will be required to wade through this long list of studies; how old do you think your man will be when he enters into practice?" We unhesitatingly reply that no one is fit to undertake the tremendous responsibility of dealing with problems involving life and death much before the age of thirty, when the levity of youth is supposed to have departed and judgment has attained to its full strength and maturity. And, if you admit of some truth in the oft-repeated assertion that it takes three generations to make a gentleman, shall you begrudge a few extra years of training to the physician who must be both a gentleman and a scientist? Moreover, we must not lose sight of the fact that it is not only the studies themselves which go to constitute a perfected education, it is also, and in an eminent degree, the daily companionship of congenial spirits, both learned tutors and enthusiastic pupils, it is the atmosphere of intellectuality which is breathed

in those institutions; and time is required to allow these to exert their full influence and power.

Times have changed, the world has progressed, the laity is better informed, and consequently more exacting. If we are to retain the confidence of the masses we must show our superiority in greater culture and scientific attainments, and to finish by a figure of speech, if we want the medical tree to present an inviting appearance and to bear wholesome and luscious fruits, we must begin at the roots by enriching the soil that feeds them and watering it abundantly, regardless of time, trouble or cost.

PURE FOOD AND DRUGS ACT

The Sherley bill passed congress and was approved by the President, Aug. 23, 1912. This bill amends the pure food law in its relation to the therapeutic and curative value of the statement on the label. Some criticism has been made to the effect that lawyers will be found arguing that while a statement might be false, it was not fraudulent, and therefore is not covered by this amendment.

The text of the Act follows:

An Act to amend section eight of the Food and Drugs Act approved June thirtieth, nineteen hundred and six.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That that part of section eight of the Food and Drugs Act of June thirtieth, nineteen hundred and six, defining what shall be misbranding in the case of drugs, be, and the same is hereby, amended by adding thereto a third paragraph to read as follows:

"If its package or label shall bear or contain any statement, design, or device regarding the curative or therapeutic effect of such article or any of the ingredients or substances contained therein, which is false and fraudulent."

So that the said part of said section eight shall read as follows:

"Sec. 8. That the term 'misbranded,' as used herein, shall apply to all drugs or articles of food or articles which enter into the composition of food, the package or label of which shall bear any statement, design, or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the State, Territory, or country in which it is manufactured or produced.

"That for the purposes of this Act an article shall also be deemed to be misbranded. In case of drugs:

"First. If it be an imitation of or offered for sale under the name of another article.

"Second. If the contents of the package as originally put up shall have been removed, in whole or in part, and other contents shall have been placed in such package, or if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphin, opium, cocain, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilide, or any derivative or preparation of any such substances contained therein.

"Third. If its package or label shall bear or contain any statement, design, or device regarding the curative or therapeutic effect of such article or any of the ingredients or substances contained therein, which is false and fraudulent."

THE INSURANCE COMPANY'S VIEW

A few years ago a certain life insurance company wanted a medical examiner in a certain locality. My advice and judgment was solicited. I recommended a physician whom I thought possessed every qualification, but, to my chagrin, he was rejected. The company said that while it was not imperative that their examiners should belong to a medical society—all else being equal—they would give a preference in favor of a member over one who was not. The doctor whom I recommended did not belong to a medical society—he does now.—William Scott, M.D., in *Lancet-Clinic*, Sept. 14, 1912.

PRIMARY HYPERPLASTIC TUBERCULOSIS OF THE APPENDIX*

ALEXANDER W. BLAIN, M.D.
Detroit

Tuberculosis of the appendix is not rare in association with the disease in other parts of the intestinal tract. As a primary disease in this organ it is extremely rare. According to Draver, it must be accounted among the greatest of rarities. The so-called hyperplastic tuberculosis is essentially a chronic disease. Of late considerable attention has been given to this form although the literature in the standard text-books is extremely meager. Even the extensive systems, as Osler's, give but scant notice to the disease.

The hyperplastic form of tuberculosis has been described in connection with the lymphatic glands, the serous membranes and the intestinal tract (Adami[1]). In some cases the disease has a resemblance to Hodgkin's[2] disease. In the intestine the disease is characterized by an enormous hypertrophy of the intestinal wall with a resulting narrowing of the lumen. The normal contour of the part is usually well preserved, cicatrical contraction, however, may produce slight irregularities in form, and masses of fat in the outer layers may cause irregular elevations on the surface. Histologically, the most conspicuous feature is the general fibrous proliferation affecting all the tissues, but most pronounced in the submucosa. Lymphoid cells are abundant, occurring in clumps and singly. Epitheliod cells and caseation may be entirely lacking, but microscopic tubercles are usually found in places (Kelly[3]). The disease has been produced experimentally in rabbits by Duval.[4] The process is explained by Cowder as a conservative effort on the part of the tissues to resist the growth and invasion of the tubercle bacilli.

Hyperplastic tuberculosis of the cecum is well known, the appendix is sometimes involved in the mass, but it usually escapes.[5] As a primary disease of the appendix, but one case has been recorded. The case which I wish to record here occurred in my private surgical series.

Edward S., aged 13, American, was brought to my office March 25, 1911. He was having severe pain in the abdomen. Patient vomited shortly after entering office. The family history was negative. The patient had always been the strongest and most active of three children until six weeks or two months previous. At this time the parents noticed that the patient was more drowsy and languid than usual. Occasionally the patient would have "stomach-ache."

On the morning of the 25th he seemed more drowsy than usual and did not care to get out of bed at his usual hour. The pain in the abdomen became more pronounced than usual especially on the right side. Upon examination the abdomen was quite rigid. The muscles of the right side were decidedly board-like. Temperature 101.2 F., pulse 112, marked leukocytosis. A diagnosis of appendicitis with abscess was made and the patient sent to the hospital for immediate operation.

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

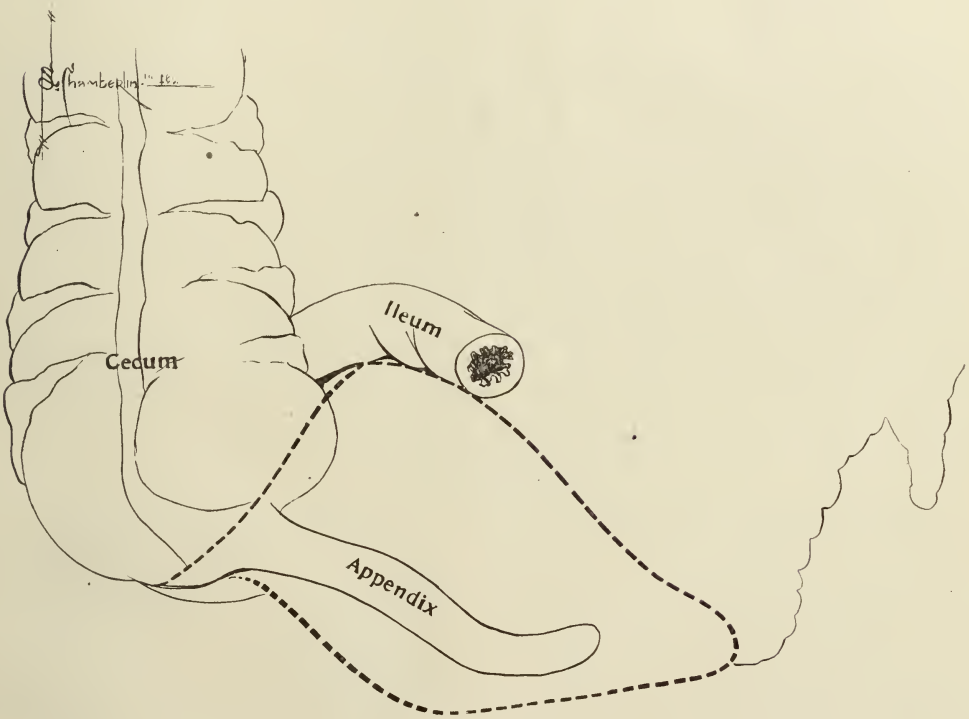
1. Principles of Pathology, ii.
2. Fagge: Path. Trans., London, 1874, xxv, 235
3. Abdominal Surgery.
4. Jour. Exp. Med., 1909, xi, 403.
5. Kelly and Heirdon: The Veriform Appendix and Its Diseases, pp. 338, 763.

Operation Harper Hospital the evening of the same day. Anesthetic, ether.

Under anesthesia the rigidity of the muscles was still marked but a movable mass could be made out. Contrary to the usual custom in cases with abscess a right rectus incision was made and the large mass delivered from the wound. The cecum was quite movable. There was considerable free fluid in the peritoneal cavity. The topography was rather difficult to make out. The omentum was adherent and firmly grown to the mass. The tumor was smooth and glistening and was with considerable difficulty separated from the surrounding ileum and cecum. A large piece of omentum was removed *en masse* with the appendix. The stump was not closed by the customary purse-string but closed in by a continuous suture covering all of the denuded surface. A small drain was placed in the wound and was removed on the third day. The patient made a good recovery and left the hospital on the twelfth day.

The specimen was sent to the hospital laboratory where Dr. Joseph Sill, Resident Pathologist, made a diagnosis of hyperplastic tuberculosis of the appendix.

The specimen was later submitted to Dr. E. J. Snyder, Director of the Pathological Laboratory, Detroit College of Medicine, who rendered the following report:



Appendix. Specimen had been hardened in formaldehyd. Color light brown. Length 8 cm. diameter 3½ to 5 cm., very firm and hard. Peritoneal surface smooth with exception of nodules. The appendiceal mesentery is greatly thickened and fibrous on section; the greatest thickening is in the subserous layer. The mucous walls which are plainly made out show some thickening. Near the distal end a well defined abscess cavity is found containing a single cauliflower concretion. The walls of the cavity are irregular and outline about 1.5 cm. diameter.

Microscopic Examination: Mucous membrane intact, well preserved, takes stains well except where destroyed by abscess cavity. The grandular epithelium shows a catarrhal condition with mucous degeneration. There is an increase in the lymphoid structures, germ centers being very prominent. The lymphoid infiltration extends through the muscularis mucosa to the circular muscular fibers. The abscess cavity shows fibrous boundary with round cell infiltration. The sub-mucous layer is thickened by the formation of a large amount of edematous cellular fibrous tissue infiltrated with lymph cells, polynuclear and eosinophilic. Blood-vessels are congested.

The circular muscular layer is thickened by the infiltration between the fibers of new formed cellular fibrous tissue. Muscle fibers are hypertrophied. The longitudinal fibers are widely separated by newly formed fibrous tissue. Both layers show large numbers of small round cells and eosinophils. The outer boundary of the longitudinal layer is very poorly defined due to the replacing and infiltration between the muscle fibers of the cellular fibrous tissue.

The chief alteration is found in the greatly thickened sub-serosa which shows the hyperplastic tubercular condition, and is from 1 cm. to 1.5 cm. in thickness. This layer is composed of the cellular fibrous tissue containing newly formed blood-vessels. Here are found a large number of tubercular foci. These latter consist of dense round cell infiltration in which are a number of epithelioid and giant cells. Some areas show giant cells in locations in which there are very few round cells. Several areas in which there are numerous giant cells show beginning necrosis. No tubercle bacilli were found in section after repeated examination. Section was also stained for spirochetes by Levaditi method with negative results. The peritoneal tract is thick with fibrous and small round cell infiltration but no giant cells. This case is distinctive in that it is the only case reported in which the involvement is in the subserosa.

It is now one year and four months since the patient was operated on. The patient has been operated on since for adenoids, but has otherwise been perfectly well. Physical examination of the chest both before operation and since have failed to show any evidence of pulmonary tuberculosis.

The accompanying painting by Norman S. Chamberlin illustrates better than description the gross pathology of the specimen.

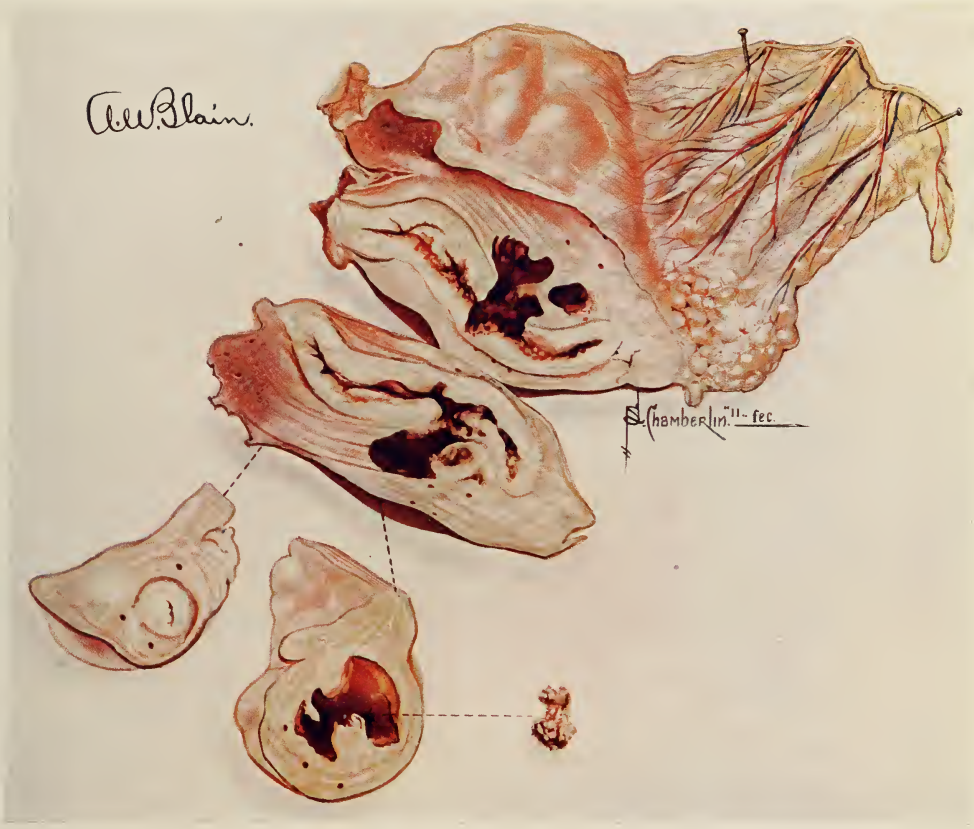
1105 Jefferson Avenue, East.

THE PREVALENCE OF RABIES IN DETROIT

Since March 18, rabies among dogs has been more or less prevalent in this city. During the past six months, the Board of Health has sent nineteen people to the Pasteur Institute at Ann Arbor because they have been bitten by mad dogs. In each case the dog was proven to have been mad when he bit his victim. During the same six months about 350 dog bites were reported to the Board of Health but it was not possible to prove that any of these were inflicted by rabid animals. About a month ago a case of hydrophobia in the human was found in Pontiac, and the victim, a man who had been bitten by a mad dog, died in terrible agony about four days after the first symptoms developed. About two weeks ago, a child succumbed to the same horrible death in Grosse Pointe, and on Friday, August 16, a little boy 8 years of age died in the city of Detroit as the result of hydrophobia.—*Bulletin Detroit Board of Health.*

ANTERIOR POLIOMYELITIS
(Infantile Paralysis)

This disease has been more or less prevalent during the past several years in various parts of the United States, and in some sections it has occurred in marked epidemics. At the present time, the disease is reported as being unusually prevalent in Buffalo. In view of these facts, we desire to call the attention of the profession to the possible existence of cases of anterior poliomyelitis in Detroit, and to request that the same be reported to the Board of Health. As has been repeatedly said with reference to other communicable diseases, it is difficult to take any steps looking towards the restriction of a disease unless we know where the cases of such diseases are located. . . . Anterior poliomyelitis has been declared an infectious disease by the State Board of Health. All physicians and hospitals are, therefore, again urged to report their cases of this disease to this department.—*Bulletin Detroit Board of Health.*



Illustrating Article by Dr. A. W. Blain

CHRONIC SUPPURATION OF THE ANTRUM OF HIGHMORE; ITS CURE BY RESECTION OF THE NASAL WALL*

OTTO T. FREER, M.D.
Chicago

BRIEF REVIEW OF ANATOMY AND PATHOLOGY

The cavity of the maxillary antrum has somewhat the form of an inverted three-sided pyramid whose base corresponds to the roof of the antrum. The roof of the antrum is the floor of the orbit, is thin and fragile, and contains the channel for the infraorbital nerve. The three sides of the maxillary sinus converge to form its bottom, a broad, rounded groove, extending sagittally above the molar and last bicuspid teeth, whose sockets may even project above the surface of the floor of the antrum, if the alveolar process be hollowed out to an unusual depth. The three walls of the antrum are called the facial, anterior or buccal wall; the temporal or posterior wall and the nasal or inner wall.

The buccal wall is the thickest and strongest, and divided from the temporal one by a buttress of bone which extends from the first molar tooth to the malar process. The anterior dental nerve, branching from the infraorbital nerve, descends in the buccal wall and its filaments are distributed to the incisor, canine and first bicuspid teeth, the nerve anastomosing with the posterior dental nerve opposite the canine fossa. The buccal wall contains the roots of the teeth as far back as the second molar. They ascend high in this wall and it is possible to injure them in operations through it.

The posterior, temporal or zygomatic wall forms the anterior boundary of the zygomatic (pterygo-palatine) fossa. Immediately behind it lies the internal maxillary artery with its posterior nasal and descending palatine branches.

The inner or nasal wall (Fig. 1) is divided by the attachment along its whole length of the inferior turbinated body, into a stronger, bony lower portion, corresponding to the inferior meatus and a thin, partly membranous, upper portion reaching to the attachment of the middle turbinated body and occupying the middle meatus. Underneath the middle turbinated body is found the groove behind the uncinate process of the ethmoid bone and between it and the bulla ethmoidalis, called the infundibulum. The small normal opening of the maxillary antrum is commonly found in this groove together with the opening of the anterior ethmoidal cells. The outlet of the frontal sinus, called the nasofrontal duct, empties into the infundibulum at its top. The gaping entrance to the infundibulum is called the hiatus semilunaris. In addition to the usual outlet there are often accessory openings of the maxillary sinus, situated below the hiatus semilunaris in the middle meatus.

Just in front of the nasal wall of the antrum is situated the lachrymal sac, slightly in advance to the anterior border of the middle turbinated body. The tear duct descends nearly vertically from it and

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

opens under the lower turbinated body at the highest point of its attachment near the junction of the anterior and middle fourth.

The interior of the antrum, in rare cases, is found divided horizontally or vertically into compartments by more or less complete bony septa. Some antra are small, having very thick walls and a floor above the level of the nasal floor, a point of surgical importance.

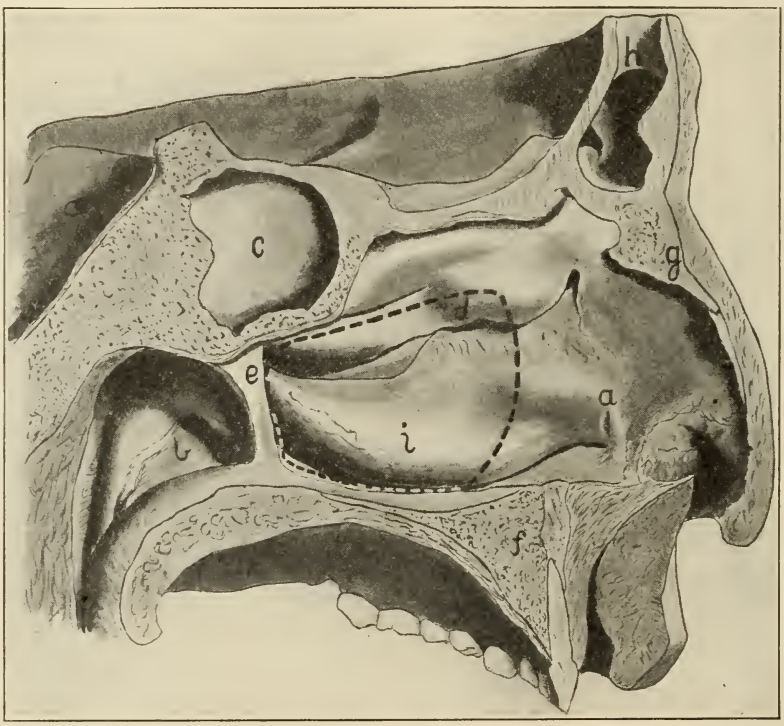


Fig. 1.—View of lateral wall of the nasal cavity, the dotted line showing the boundary of the nasal wall of the antrum which lies underneath the lower and middle turbinated bodies, i and d; c, sphenoidal sinus; e, remaining posterior part of septum, the rest being removed to show lateral nasal wall; b, Eustachian tube; f, hard palate; g, nasal bone; h, frontal sinus; a, incision for submucous uplifting of mucosa of convexity of lower turbinate to form flap shown in Figure 5.

ANTRAL INFLAMMATION

The antrum is lined with a thin, closely attached, mucosa-periosteum bearing ciliated epithelium. Acute inflammation of this membrane causes but moderate swelling and even in chronic sinusitis it is seldom materially thickened or altered. In a few chronic cases, however, hypertrophic changes take place, the normally delicate mucous membrane sometimes undergoing great fibrous thickening which nearly fills the lumen of the antrum, the surface of the altered mucosa remaining smooth, or becoming warty, or covered with irregular outgrowths. In other rare cases the interior of the cavity is found partly filled with masses of granulation tissue, thickened mucous folds and collections of polypi, while portions of the mucosa may undergo cystic degeneration. The fissures and sulci separating the loose irregular proliferations so formed, lead to retention, stagnation and putrefaction of secretions. Chronic periostitis with the production of

osteophytes in the interior of the antrum is also found. Caries of the bone, in the form of localized caries in the neighborhood of a diseased tooth or affecting other parts of the antral wall because of penetrating ulcers of the mucosa is rare, but may occur, and may lead to extension of the suppuration beyond the cavity of the antrum. In this manner abscesses of the orbit or of the zygomatic fossa may result with danger of brain abscess and meningitis, while in more fortunate cases the abscess forms outside of the buccal wall of the antrum under the cheek. Abscesses about the antrum may also occur without preceding caries, the septic process penetrating the bony wall by means of thrombosis of penetrating veinlets.

The discharge in inflammation of the maxillary antrum may be serous, purulent or even absent, but it is usually pus, and in chronic cases generally fetid, sometimes intensely so. The quantity of secretion varies from slight amounts that dry into crusts in the nasal passages to a free outflow.

Acute maxillary sinusitis due to infection of the antrum through the natural opening of the nose in the course of infectious rhinitis usually ends in complete spontaneous recovery. Chronic purulent maxillary sinusitis with fetid discharge, is, in my experience, nearly always due to death of the pulp of a molar or second bicuspid tooth with resulting root abscess, or due to a root extraction opening the antrum through the alveolar process. It cannot recover spontaneously because the pus stagnates in the cavity of the antrum on account of difficult drainage through the small natural opening, which is situated unfavorably near the top of the antrum, when the patient is upright, and which is readily narrowed or closed by swelling of its mucosa, by the polypoid proliferations which often form about it and by swelling of the mucosa of the middle turbinate and uncinate process. The pus, therefore, must often be under positive pressure from continued secretion in order to force its escape. The obstruction of the normal opening so created not only interferes with drainage, but also stops the ventilation of the antrum, so that absorption of the air within it creates negative pressure and so adds to the chronic venous congestion and secretion. In order to recover from the suppuration the antrum must not only be drained, but also ventilated, and this is the reason why the customary opening through the socket of a tooth, blocked as it is by granulations and pus, does not lead to recovery.

In many cases the pus, stagnating in the antrum, deposits thick foul clots, which may nearly fill the cavity with a semi-solid mass.

DIAGNOSIS

Nasal inspection usually shows nothing beyond creamy pus in the middle meatus, the naris looking normal when this is washed away. Not infrequently there is swelling of the processus uncinatus, so that it protrudes beside the body of the middle turbinate, making it appear as if doubled. In other cases polypi sprout from under the middle turbinate and, when removed with the punch, may lead directly into the antrum in the middle meatus, a gush of pus indicating entrance into the cavity.

In some cases, even when the pus in the antrum is not apparently under pressure, there is a characteristic bulging of the nasal wall in the middle meatus due probably to swelling. In one case, seen by me, that of a girl of 12, purulent coagula so filled the antrum with a solid mass that pressure absorption of the bone of the nasal wall over its entire extent had resulted, the distended flaccid outer nasal

wall protruding against the septum, so that I thought it a smooth tumor, until an incision gave vent to the cheesy contents.

The pus in chronic antrum suppuration is nearly always foul, while pus coming from the frontal sinus or ethmoidal cells is seldom so. Therefore, even a drop or two of offensive pus in the middle meatus and especially the patient's complaint of a malodorous discharge from the nose, although the nose looks clean on inspection, should create suspicion of empyema of the antrum, for the pus does not always stay in the middle meatus, in many cases flowing back immediately into the nasopharynx so that none is seen in the nose.

Suction by increasing an existing outflow or by making a drop or two of pus appear in the middle meatus, may suggest the existence of suppuration in the antrum.

Suppuration of an antrum is probable where, with an *x*-ray picture showing the antra of equal size, transillumination shows one cheek distinctly darker than the other, absence of the usual lunette of light under the orbital margin and the pupil on the affected side dark, while that on the healthy side shines with a greenish light. Where the amount of pus in the antrum is slight the contrast between the two cheeks may be effaced by a bright light and only become evident when the light is dimmed. On the other hand even a normal antrum may remain dark in thick-skulled men, unless a very intense light be employed. The transillumination lamp, therefore, must be one which can be dimmed or brightened by means of a rheostat.

X-ray pictures, while so valuable in detecting frontal sinus suppuration, often mislead in suppuration of the antrum, because of the varying thickness of the buccal wall and because of overshadowing by the malar bone, so that an antrum may be normal while giving a blurred shadow on the plate. The *x*-ray plate is, however, indispensable, for it shows the level of the antral floor and the possible presence of septa, conditions which must be determined before operating.

The diagnosis of suppuration of the antrum is confirmed by washing pus from the antrum through an artificial or the natural opening. In the rare cases where the natural opening is not covered by the middle turbinated body it may be readily entered with a suitable right angled tube, but I have usually found it too far under the turbinate to be reached without force. Unless easily done, washing through the natural opening is not worth while, for the small stream available may return clear and nevertheless thick pus may lie in the bottom of the antrum, the water merely flowing in and out over the clotted pus. This is also true of the easily made puncture through the middle meatus, and for this reason I nearly always employ an opening made near the bottom of the antrum through the nasal wall under the inferior turbinate by means of a trephine driven by a dental engine (Fig. 2). The round, large, smooth opening thus painlessly made, admits a large Eustachian catheter which fits so loosely in the hole that there is an ample return flow for flushing out the pus, which may be unable to escape through the natural opening if it be small, or blocked by swelling or pus clots.

Instead of the trephine, the trocar is the commonly used implement for diagnosis. I have abandoned it because it often failed to puncture a massive nasal wall, because the small cannula tightly filled the puncture and so left only the natural opening available for the return flow, and because the trocar in breaking through the bone often caused great pain, due to the stellate fracture made. Even the large return stream from the trephine opening

is occasionally blocked by clots of pus, a condition made evident by the impossibility of forcing water into the antrum until the clot escapes.

Where transillumination and the *x*-ray are both negative a persistent foul discharge in the middle meatus nevertheless justifies exploratory trephining when both the frontal sinus and ethmoidal cells seem healthy, for where a suppurating antrum drains fairly well through a large natural opening there may not be enough retention of pus in its cavity to cause darkening.

While the pain in empyema of the antrum in many cases is seated in the teeth and cheek and so directs attention to the antrum quite as often the pain is situated in the supraorbital region and so misleads the inexperienced into a diagnosis of frontal sinus suppuration. A search for the signs described will avoid this error, which is committed with incomprehensible frequency.

TREATMENT

Boring through the alveolar process in the socket of a molar tooth. This objectionable operation is still much used. It is very painful and the drainage obtained is so poor, because of the granulations which soon fill the small canal made, that the patients often have to use it to wash the affected antrum for the rest of their lives. Where a tube is worn in the canal it permits the ingress of food into the antrum, creates constant irritation and pain and its small caliber will not give egress to the thick pus which stops it enough to prevent ventilation.

The Caldwell-Luc operation through the buccal wall.—This is the popular operation to-day. The antrum is broadly opened through the buccal wall and from the entrance so obtained a permanent opening is made in the nasal wall, preceded by resection of a part of the lower turbinated body. This operation has become the favorite one for two reasons. It requires no especial skill, as the buccal wall lies right before the surgeon and the mistaken notion that the mucosa is nearly always pathologically altered beyond repair, and must be scraped away, makes it seem necessary to have direct access to the antrum. As stated, it is only in the rarest cases that the mucosa is not fully capable of a return to its normal condition as soon as ventilation and drainage are established. Instead therefore of being a necessity, the first part of the Caldwell-Luc operation, the breaking through the buccal wall, is a needless mutilation endangering the roots of the teeth and the anterior dental nerve and without reason making the operation a major one requiring general narcosis. In the end the Caldwell-Luc procedure accomplishes no more than the operation through the nasal wall, which may be done under local anesthesia and constitutes the least severe half of the Caldwell-Luc operation.

The operations of Denker and Canfield with resection of enough of the inner surface of the upper jaw, beginning in front at the apertura piriformis, to include the nasal wall of the antrum.—These procedures are also out of proportion in their severity to the requirements of the condition to be remedied.

Canfield removes the nasal wall of the antrum as high as the level of the insertion of the inferior turbinate, beginning at its very front at the apertura piriformis, after a preliminary amputation of the anterior half of the inferior turbinate has been done. He also removes the desired amount of the anterior antral (buccal) wall and curets the antrum "as much as is necessary." He forms a flap of the mucosa of the submucously resected nasal wall and applies it to the floor of the antrum.

The operation through the middle meatus. — This procedure involves the danger of penetration of the orbit where the orbital floor is low and it establishes drainage at the top of the antrum, so that retention of pus is unavoidable.

The intranasal resection of the nasal wall of the antrum as performed by the author. — The first operators to broadly open and drain the antrum through the nasal wall in the inferior meatus were Claoue,[1] Holbrook Curtis[2] and Rethi.[3]

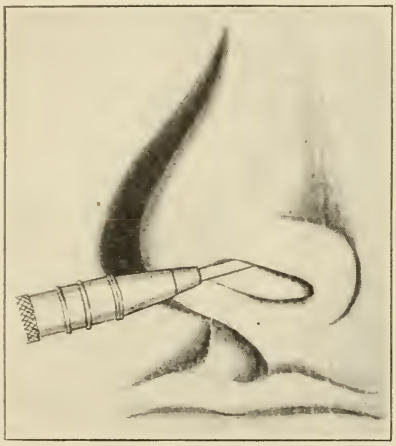


Fig. 2.—The trephine introduced into the nose and applied to nasal wall of antrum underneath the lower turbinate ready to make exploratory opening.

FREER OPERATION

My method of operating is as follows: As a preliminary to the operation or even exploratory trephining in the inferior meatus, an *x*-ray picture should be taken to show whether the floor of the antrum be as low as, or lower than, that of the naris, lest the trephine drill below it into the solid bone.

For the local anesthesia cocain mud, made by dipping a swab moistened with adrenalin into cocain flake crystals, is rubbed into the lower turbinate and under it into the mucosa of the lower meatus. Unless there be no doubt that empyema of the antrum exists, the exploratory trephine opening is then made under the lower turbinate by means of a straight trephine (Fig. 3) in the handpiece of a dental engine. The engine I employ has one-eighth horse-power and makes at full speed 4,000 revolutions in a minute. There is no difficulty in introducing the trephine under the lower turbinate for, because of its elasticity, the cartilaginous septum can be sprung over towards the other nostril with the smooth shank of the trephine (Fig. 2). The cutting edge of the trephine is pressed against the wall of the lower meatus about ¾ of an inch behind the anterior attachment of the lower turbinate, the barrel of the trephine lying across the naris at an angle of about 45 degrees (Fig. 4). In this position the trephine goes into the antrum instantly, but with a distinct sense of its entrance. In some cases, such as no trocar can penetrate, the trephine cuts through more slowly, and a nervous operator will feel relieved when it finally pierces the bone. I have cut through bone of ivory hardiness, 3/16 of an inch thick, the trephine growing hot and smoke coming from the nose from the friction. The procedure is absolutely painless.

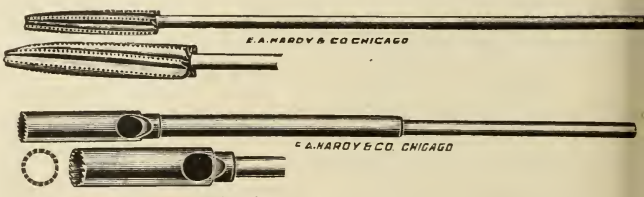


Fig. 3.—Freer's antrum bur and trephine.

The antrum is now flushed with the Eustachian catheter and, if pus be present, the real operation is begun by resection of the anterior half of the inferior turbinated body. This is done according to the method I have described.[4] A vertical

1. Revue Hebd. de Lar. D'Otol. et de Rhinol., 1903.
2. The Laryngoscope, 1903.
3. Wiener Klinische Wochenschrift, 1904.
4. Annals of Otology, Dec. 1911.

incision is made at the front of the turbinate (Fig. 1), large enough to permit the entrance of a sharp elevator under the mucosa, which is detached from the convex surface of the bone as far back as the intended resection. The so-prepared flap is then detached by means of an incision along the free border of the turbinate and is reflected upward, out of the way. The turbinate is then cut longitudinally with the chisel (Fig. 5), from its attachment to the nasal wall, as far back as the flap

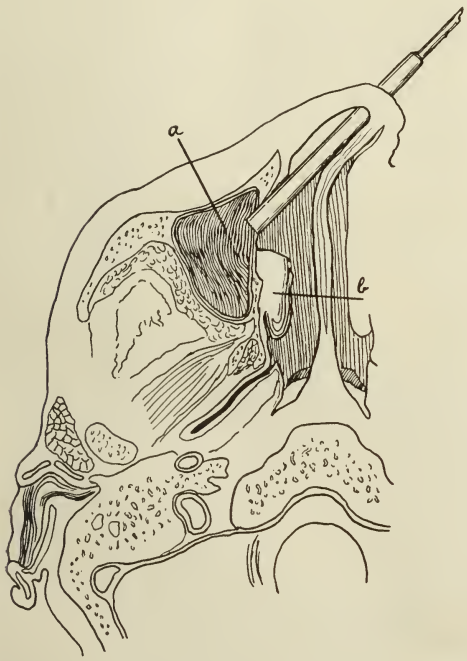


Fig. 4.—Horizontal section through head, showing the trephine penetrating the nasal wall of the antrum and lying across the nasal fossa at an angle of 45 degrees to the long diameter of the nasal cavity. a, antrum; b, posterior part of resected inferior turbinate.

is liberated, and is then cut away with punch forceps as far back as the chisel cut goes. The flap is then replaced and smoothly covers the stump, later adhering to it by first intention, thus avoiding granulating and scabbing (Figs. 6 and 7).

The nasal wall now lies in view and after several cores have been cut from it with the trephine, in the manner described, the long, barrel-shaped bur (Fig. 3) is made to ream out the opening started by the trephining until the nasal wall of the antrum is leveled to the nasal floor and cut away above to the attachment of the lower turbinated body and forward and backward as far as desired. It is not necessary, but possible, to remove the entire nasal wall with the bur; forward cutting being especially easy, while with forceps, even back cutting, this part of the work is difficult and uncertain. The length of the barrel of the bur keeps it always riding on the edge of the bone. It is so much easier to cut the opening with the bur than with any forceps I have used, that I merely use it to trim the edges of the opening in cases where its blades can be applied with sufficient accuracy, in this to forceps rather inaccessible operative field. I have not found a chisel a useful instrument for the operation.

The opening must be made twice as large as it is intended it shall be after healing, for, although the bone is not replaced, the edges of the opening in the mucosa tend to contract concentrically in cicatrizing, forming a membranous diaphragm which partly closes the hole. Where because of a deflection of the septum, it is difficult to make an adequate opening, the deflection must be resected as a preliminary operation.

In some cases, where the suppuration was slight, I have contented myself with merely reaming out the exploratory trephine opening under the turbinate with the bur, and, while I have obtained recoveries in this way, I prefer the more radical operation described, for where the turbinate has been left intact I have had relapses and had to do the complete operation in the end.

All but one of my thirty-six patients recovered, no washing being necessary after a few days or weeks. The one case referred

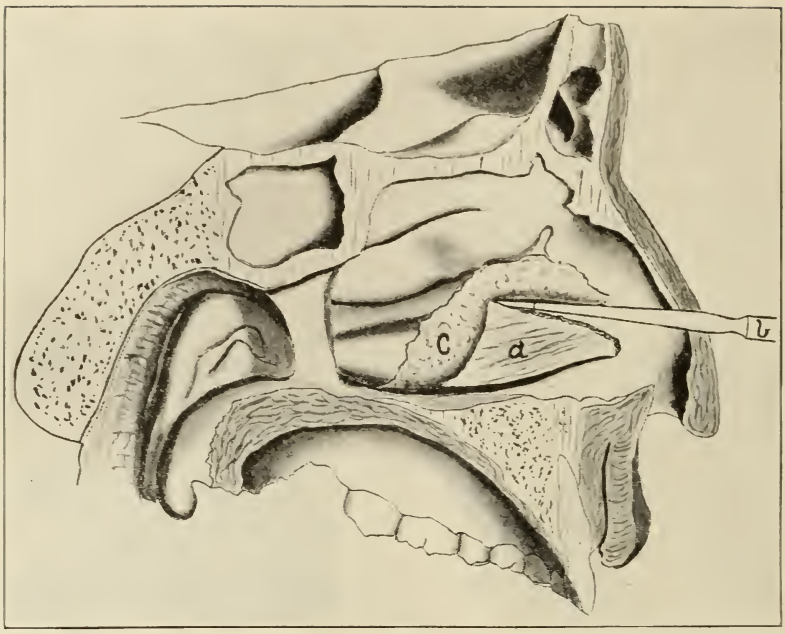


Fig. 5.—Lateral view of the nasal cavity as in Figure 1, showing the flap c, uplifted from the portion of the lower turbinated bone, being resected, and the chisel; b, detaching this part of the bone; a, from its attachment above.

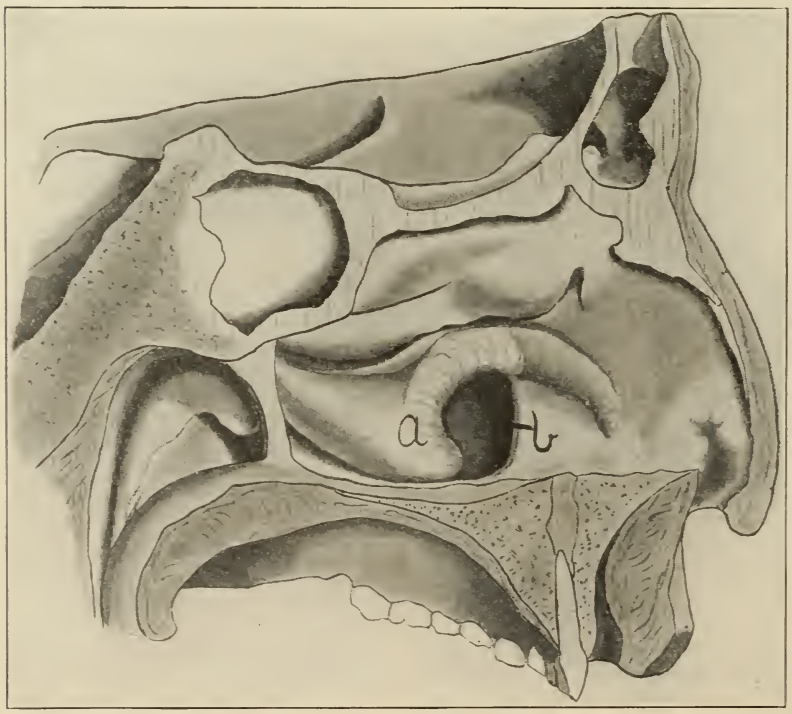


Fig. 6.—Lateral view of outer wall of nose as shown in Figure 1, showing the inferior turbinate a, resected and covered by the flap; b, opening into antrum made by trephine and bur.

to is one of ozena and the mucous lining of the antrum, although of normal appearance, still secretes some pus, though less and less.

I have never had to curet the antrum and can see no reason, unless there be extreme degeneration of the mucosa, for removing the irreplaceable ciliated mucous lining, thus needlessly subjecting the patient to healing by granulation, tedious even when helped by a flap. Ventilation and drainage alone seem capable of restoring the mucous membrane to its normal state in nearly all cases.

Exceptionally caries or a tumor may make the Caldwell-Luc operation a necessity, but as the intranasal operation is but its last step, there is no reason why the Caldwell-Luc operation should not be used as a last resort instead of the invariable procedure it is with many operators.

The fact that the floor of the antrum is lower than that of the nose does not sufficiently interfere with drainage to be of moment.

For after-treatment, I pack the naris of the operation, but not the antrum, with the layer tampon described in my septum articles. After the removal of this packing I wash the antrum a few times, when the suppuration usually has ceased. If it continue for a time, I teach the patient to wash out his own antrum with boric acid solution until he is well. It is seldom that he needs to wash more than a month or two.

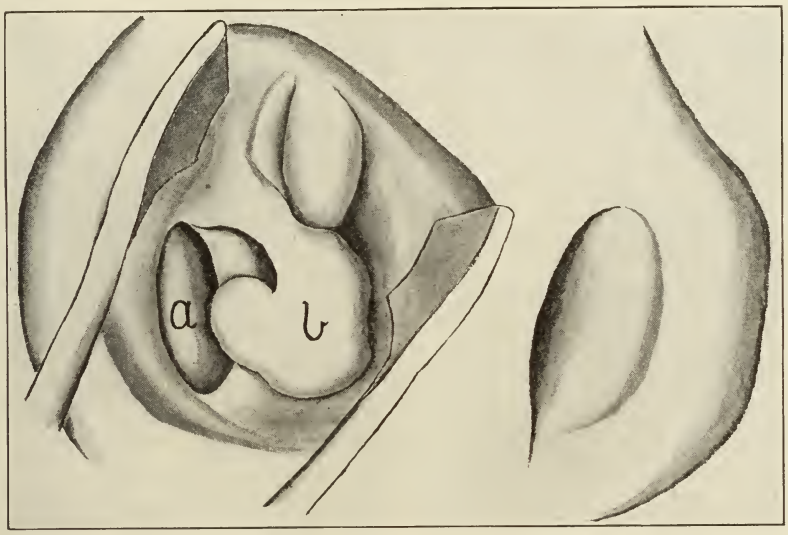


Fig. 7.—Drawn from life two months after operation. View into right naris held open with speculum, showing the resected inferior turbinate and the opening into the antrum under it; a, opening into antrum; b, inferior turbinate.

DISCUSSION

Dr. Otto Freer, closing: My chief reason for choosing the subject of the intranasal operation for chronic empyema of the antrum is the undeserved popularity of the Caldwell-Luc procedure which mutilates the complex buccal wall of the maxillary sinus, endangers the roots of the teeth and the anterior dental nerve, needlessly destroys the lining of the antrum and in the end does no more than the intranasal operation. I can see no reason for choosing this destructive route to reach the nasal wall, when it lies before the operator in the nose merely covered by the inferior turbinate, unless it be that a lack of intranasal skill impels the majority to enter the antrum directly from in front.

It has been my experience that I have seldom had to have the tooth that caused the suppuration of the antrum treated by a dentist. It seems as if the suppuration in the tooth-socket usually ends after the root abscess has drained into the antrum and after the root-canals have been filled, and that it only exceptionally persists because of caries of the alveolar process.

Dr. Canfield's operation, as applied to those cases of suppuration of the maxillary antrum where caries or some other complication requires the broadest sort of an opening, fills a distinct place in surgery and is superior to the Caldwell-Luc method for such unusual cases, for which it should be reserved while the operation I have described is suitable for antral empyemia of the ordinary type.

Dr. Canfield is wrong in thinking my procedure limited to myself, for I know a number of busy rhinologists who employ it with satisfaction.

ADVICE

By Dr. J. D. Dunlop, Alpena

If you're anxious to get to the end of the row,
Keep hoeing.
If desiring success, why keep on the go,
Keep going.
The fellow who loiters along the road,
Who constantly whines at his terrible load,
Looks sorry and draws down his mouth like a toad
Or keeps blowing
About the great things that he some day will do,
I think will be out in the cold, don't you?
When it's snowing.

If you happen to be in a foundering boat,
Keep rowing.
If your object is trying to keep her afloat,
Keep going.
Don't stop your rowing to wish for the shore
But use all your energy wielding the oar;
That fraudulent wishing has failed you before,
It's a sham.
Some people can wish, but don't like to work
Tho' the chap who keeps wishing is only a shirk,
He's a clam.

If you do not succeed the first time you try,
Don't stop,
Keep pushing along. Don't sit down and cry
One drop.
The clouds that surround you will all disappear
If you hammer away for a month or a year,
Then friends by the score will be offering cheer,
Sure pop.
And say, "You have done a magnificent job,
We're delighted to see you commencing to bob
Up top."
But if you're successful, don't grab for the earth
Nor get gay.
Don't become all puffed up with hilarious mirth
The first day.
Keep hoeing your row. Be a man among men.
Don't forget that you may become hard up again,
Should the bottom drop out of your bubble.
What then?
Keep going.
Those who smiled when you rose, would laugh if you dropped,
And be justified, too, if you foolishly stopped
Your hoeing.

Don't be narrow, nor little. Be earnest, but kind.
Look around.
There are those whom the fates may have driven behind
To be found.
And while you are happy because you have won
There are other unfortunates still on the run
Who chased by the Devil are having no fun
And why
Don't you move some obstacles out of their way
And help the poor fellows in winning the day?
Now try.

Keep boosting and helping the town where you live,
Why not?
And when asked to help. Why, be ready to give
On the spot.
The man who's a knocker is wrong in the head
He's seldom a giver, but a wanter instead,
And what will be said of him after he's dead?
Great Scott!
He'll be called an old tight-skin, then forgotten, I think,
Or his memory painted in colors of ink.
Sure shot.

THE DIRECT TRANSFUSION OF BLOOD, WITH THE REPORT OF TWO CASES*

ALEXANDER MACKENZIE CAMPBELL, M.D.
Grand Rapids, Mich.

There is probably no more dramatic procedure in operative surgery than that of the direct transfusion of blood. The patient requiring this measure is usually in an extremely serious and debilitated condition, while the person who donates the blood is supposed to be an individual who expresses as perfect a degree of good health as is possible.

The contrast when donor and recipient are each placed on an operating table in such a relation that the artery of the one can be connected to the vein of the other, makes a picture which in consideration of the sacrifice and sentiment involved would be worthy of the efforts of a great artist. The biblical aphorism "Greater love hath no man than that he lay down his life for his friend" is almost exemplified in the courage and suffering that this measure entails.

HISTORY

Just when transfusion of blood was first advocated is not known, but its practice was extensive in the first century. The varying successes at first, and the failures due to recklessness put a stop to the procedure, for in 1675 the parliament of Paris prohibited by edict the practice of transfusion. No further attention was given to the subject until 1815, when Blindel brought it forward again; and again in 1828, Dieffenbach utilized it. Von Ziensen in the early nineties of the past century proved its value as a therapeutic measure. It is stated that the ancient Egyptians alluded to the transfusion of blood in their writings. Herophilus in his treatise on anatomy made a definite reference to blood transfusion. Pope Innocent the eighth was transfused with the blood of three youths, in April, 1492, in an unsuccessful attempt to prolong his life. Labavius gave an accurate description of transfusion of blood as early as 1615.

It will be seen therefore that the conception of blood transfusion is by no means new. The methods by which it has been done in the past must necessarily have been crude, and to-day even we are not entirely agreed on a satisfactory technic.

METHODS

In reviewing the transfusion methods we note that Carroll sutures the cut artery of the donor to the cut vein of the donee, by simple circular suture, the coats of the vessels being everted so as to bring intima to intima in broad apposition. No. 16 needles and No. 000,000,000 thread, 1/16 of an inch from the cut edge, are used. In Hartwell's method the artery is telescoped into the vein, just as ureteral telescoping is done in case of complete division of these tubular structures. The end of the intussusceptum (artery) is provided with one to three U-stitch bridles near the cut edge, each strand is provided with a needle, and these needles, in sets of two, are thrust into the lumen of the intussus-

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

cipiens (vein), and through all its coats about one inch from the cut end, emerging at different points of the circumference. The strands are now pulled through drawing behind them the intussusceptum (artery) the end of which has been well greased with melted sterilized vaseline. The corresponding bridle ends are knotted together and four sutures are put in to take the edge of the intussuscipiens end to the intussusceptum for the purpose of preventing back flow and leakage.

The Crile method consists of small conical cannula transversely grooved, held with a hemostat handle; through its lumen the vein is drawn from the handle side usually by means of a suture bridle, but preferably with one of the miniature tenacula. The vein is cuffed back and secured with a fine silk ligature over the transverse groove on the cannula. The donor's artery is then spread with three fine tenacula or mosquito forceps and drawn over the cuffed vein where it is in turn tied down.

In the Crile-cannula-dog's method a carotid is removed from the dog in its entire length, fitted with a Crile cannula at each end, properly preserved in 2 per cent. formalin solution and stretched on a wire frame to prevent kinking. This apparatus is put into use quite simply, by splitting the artery and vein, just enough to introduce a cannulaed end of the dog's carotid into each and throwing a ligature about the vessel and contained cannula. It will be readily seen that this allows a pliable joint to be made between the donor's and the donee's vessels without stretching or straining.

Brewer advocates the use of glass tubes of various calibers, some straight, others bayonet shaped, the flanges also varying in diameter. These are immersed just before using in melted paraffin, a coat of which is believed to make the interior less likely to coagulate the blood flowing through. The ends of the paraffin tube are introduced into the cut ends of the artery and vein respectively, and tied in with ligatures. They serve as connecting links between the vessels of the donor and donee in order to relieve tension and strain between them.

An important detail in the technic, whatever method is employed, is the treatment of the adventitia. This tends to fall forward over the cut end of a vessel and obscure it, interfering with the passing of sutures or the picking up of the circumference with mosquito forceps or tenacula. It is essential to remove this impediment by pulling the adventitia out, like the prepuce over the glands in circumcision and trimming it off with sharp scissors so that its cut edge retracts above them.

Arthur H. Curtis and V. C. David of Chicago did a lot of experimental transfusion on dogs, and also transfused thirteen human patients with pellagra on which they used the Crile method in all cases save one, where vein-to-vein anastomosis was done. They were not satisfied with the methods of blood transfusion in vogue and resorted to a measure which seemed to overcome the difficulties encountered by all other methods. The studies of Freund, Bordet and Gengou have demonstrated that blood introduced into the vessels coated with paraffin or petroleum remains uncoagulated for several hours. Practical use of this method was made by the authors. Usual instruments for exposure of the vessels and sutures of wounds were used and one especially constructed ground glass or metal Y-cannula was used. The cannula consists of a neck and two arms. The tips are two or three millimeters in diameter and are provided with slightly raised collars to guard against the slipping of the ligatures. The neck of the cannula has a conical lumen which forms a firm, smooth union with

the end of the Porges syringe which is inserted into its base. The syringe and cannula being sterilized are fitted together under asceptic technic and uniformly warmed over a flame. About 25 c.c. of sterile hot petroleum is then aspirated into the apparatus and after the latter is thoroughly and rapidly coated by working the piston up and down the excess is forcibly ejected through the ends of the cannula. The medium basilic or other prominent vein of the elbow region is now exposed in both donor and recipient for a distance of 2 or 3 inches. The vein of the recipient is ligated at the end toward the hand, stripped of blood toward the heart, and a rubber-protected vessel clamp applied as far as possible away from the ligature. A clamp is then applied to the distal end of the donor's vein, the vessel is stripped toward the heart and ligated proximally. Each vessel is in turn cut squarely across near its ligature, caught up at three equadistant points by mosquito forceps and irrigated with warm salt solution, a cannula end is introduced into each vein, and tied in position so that one cannula is continuous with the recipient's vein and the other with the vein of the donor. The clamp of the donor's vein is released, and a syringe-full of blood is carefully aspirated; the clamp is then replaced and the one on the recipient's vein removed. The blood is very slowly injected into the recipient and the clamp applied. This procedure is then repeated until sufficient blood has been transfused. The advantages claimed for this method are: first, the amount of blood transfused can be accurately measured; second, the rate of flow may be definitely controlled; third, there is simplicity of technic with great saving of time. In emergency cases this should be of great benefit. Fourth, success in the transfer of blood is assured. Fifth, there is lessening of danger of transfer of disease of recipient to donor.

There are other methods for transfusion of blood and an ingenious one devised by J. E. Jennings, who opens both saphenous veins above the ankle. He places the donor in an elevated position of 45 degrees from the horizontal on a table, the end of which can be pressed down to the floor, each patient lying with his feet toward the middle of the table, and so placed that the malleoli are opposite. The long saphenous veins of both subjects are cut down on and freed for an inch or so. He states that this vein, which is under the skin, anterior to the internal malleolus, may be rolled under the finger and is constant in that position. He states that if the patient be given venous blood he will soon aerate it himself.

INDICATIONS

What are the indications for the transfusion of blood? H. P. Cole reports twenty cases of pellagra which he and Dr. Gilman J. Winthrop of Mobile, Ala., transfused with blood. All cases were moribund at the time of transfusion. There were twelve recoveries and eight deaths, or a recovery of 60 per cent. Their experience in twenty cases led them to recommend transfusion in the terminal stages of this disease, when other available measures have been used without success.

Jones and Winn[1] state that in acute hemorrhage where the source of bleeding can be controlled, transfusion furnishes the ideal treatment and has invariably been a life saving measure when done by competent hands, before irreparable damage has resulted from anemia of the nervous system.

Transfusion for hemorrhage in typhoid fever has been practiced a number of times

1. Atlanta Journal Record of Medicine.

successfully where ordinary measures have failed. It cannot be expected, however, to prevent hemorrhage from new points of ulceration in typhoid. In chronic gastro-intestinal hemorrhage transfusion not only may replace the loss of blood, and the patient gain strength to warrant an operation, directed toward hemostasis, but the effect of the donor's blood may even go so far as to prevent further bleeding, and accomplish a cure when all other methods of treatment have been of no avail. In intractable postoperative hemorrhage transfusion offers a resuscitation of the patient by a restoration of the lost blood so that radical steps can be taken to secure the bleeding point. In some instances transfusion has exerted seemingly an influence toward the spontaneous checking of hemorrhage.

Crile furnishes excellent reports of hemophilia treated by direct transfusion of blood. In every case there was immediate temporary cessation of hemorrhage. In two of his cases hemorrhage soon recurred to be followed by hemostasis.

Newell reports one case occurring in a new-born child in which immediate stoppage of hemorrhage occurred as soon as the effect of the donor's blood became evident in the recipient.

Goodman recently reported a case in a child 2½ years old of transfusion as a last resort. Hemorrhage stopped and child began to improve immediately.

Melena neonatorum, which has hitherto been unavailable for treatment by any other measures has been found amenable, and no doubt transfusion will save a majority of these patients. Welch reports eight successive cases with good results where he, instead of directly transfusing blood from donor to recipient, introduced sterile human serum (blood) subcutaneously in doses of 10 c.c. at a time, and repeated after several hours if necessary. The authors believe, however, that transfusion is more advantageous in that it stimulates the patient, replaces the lost blood, and is equally effective at least as a curative measure.

Definite conclusions cannot be formed at present in reference to the cure of purpura by transfusion. It appears to probably be of value.

The success of Pool and McClure and others in transfusing for secondary anemia leads authors to believe this method of treatment to be worthy of note.

Shock is treated much more satisfactorily by transfusion than by any other measure. Combined hemorrhage and shock has been as successfully treated by transfusion as has been experienced in shock from trauma, etc.

Crile showed from experiments that transfusion saved about 60 per cent. of illuminating gas-poisoned dogs, if the transfusion was accompanied by rhythmic pressure on the thorax, artificial respiration and bleeding. Those cases treated by either simple manipulation, bleeding, of saline transfusion all died.

Cole reports satisfactory results from transfusion in pellagra cases, but authors do not think the method a rational one outside its general tonic effect.

A review of the literature appears to show that there is no evidence that transfusion influences favorably leukemia, pernicious anemia, carcinoma, toxemia, certain drug poisons, acute hyperthyroidism or uremia. In sarcoma there is some evidence of good resulting. The results in tuberculosis have been discouraging. Cases of suppuration are benefited and rendered safe surgical risks.

CASE REPORTS

We desire to report two cases of the direct transfusion of blood performed on human patients within the last nine

months. The operations were performed by the use of the Crile cannula, artery to vein anastomosis, and the technic in each case was the same.

The first case was one of typhoid fever of extremely virulent character, where all the ordinary means of treatment were instituted without avail. The patient was almost moribund from the severe toxemia. Dr. J. B. Whinery, the attending physician, called consultation in which it was determined to perform a blood transfusion. Little hope, however, was entertained at that time that this measure would do the patient any permanent good. In this case the father was the donor, he being a man who seemed to be in perfect health. Donor and donee were taken to the operating room, where the left arm of the former and the same arm of the latter were prepared under asceptic precautions. A very mild solution of cocain and adrenalin (1/10 of 1 per cent. cocain) was used as a local anesthetic. The radial artery of the donor was exposed for a distance of about an inch and a half while the median basilic vein of the donee was isolated ligated, and cut. By the use of the Crile cannula the vein and artery were connected and arterial blood was permitted to flow into the recipient's vein. It was impossible to determine how much blood was transfused in this instance; however, the vessels were left connected for about twenty minutes. The patient did not show much improvement and died within twelve hours. We were unable to get blood-counts in this case either before or after transfusion.

The second case was one of septicemia following an operation for superative appendicitis. The patient suffered for six weeks and became so debilitated that her blood-count became as low as two million five hundred thousand red cells per cm. with a haemoblobin of 40 per cent. No treatment seemed of any avail and as a last resort transfusion was advised. The donor in this case was a relative of the young patient and was an unusually vigorous and healthy man. No trouble was experienced in isolating both artery and vein but it was very difficult to attach the artery to the cannula. The adventitia frayed when taken hold of by the mosquito forceps, three pairs of which were used in our effort to get the artery over the vein. The connection being finally made, the vessels were kept connected for about twenty minutes. The patient rallied noticeably after this transfusion and had a much better night than she had had previously. However, she went into collapse within twenty-four hours, and died very suddenly.

One cannot feel very proud of a mortality of 100 per cent. in these two first cases, probably the first two cases of blood-vessel surgery that have been done in our city. While the technic in these cases was such as one would expect from the efforts of one who was a novice in this branch of surgery, yet we are confident that these cases were such as would not have recovered in any one's hands.

The question of whether there is danger to the recipient from blood transfusion has occasioned some controversal literature. In a recent book Crile discusses hemolysis and describes the technic of making hemolytic tests.

Subsequent to this work it is said that he has stated that for all practical purposes the dangers of transfusion are too small to consider them if the indications for transfusion are great. If there is time and if there are facilities for doing it, the hemolytic test should be made. He states that hemolysis between the donor's corpuscles and the patient's serum will do little harm, but reversed hemolysis, that is between the donor's serum and the patient's corpuscles, strictly contra-indicates transfusion.

In summing up his results from hemolytic tests Crile states that in the interpretation of results and their clinical application experience has shown that the occurrence of hemolysis invitro before transfusion does not necessarily indicate that it will occur in the vascular system of the recipient after transfusion. He emphasized the fact that our knowledge of hemolytic reactions and their significance is still in a very rudimentary stage.

In reviewing the literature concerning the direct transfusion of blood one cannot but feel that it is a life-saving measure in certain selected cases. It behooves the surgeon to equip himself with the necessary instruments and other apparatus necessary for the performance of this operation. Animal experimentation would improve the surgeon's technic and should be practiced before it is done for the first time on a human patient. Hospitals should be equipped with complete and practical transfusion sets. The operation, while delicate, should be neither dangerous to the donor nor to the recipient.

The Hospital Year.—J. M. Dodson, Chicago (*Journal A. M. A.*, August 24), notices the remarkable advance in the requirements of the medical curriculum in recent years, and says that this advance has not always, in its details, been as wisely made as it should have been. When the general increase was made from three to four annual sessions of the medical course it would have been better had the additional requirements been made in the preliminary studies. At present the premedical curriculum may be regarded as satisfactorily determined for the time, and the advance that is most needed now is the addition of a fifth or practical year of service as intern in a hospital, under due supervision, to the present course of study. The opportunities for practical experience of this kind have enormously increased. It may be conservatively estimated that there are 700 hospitals in the country averaging fifty beds, or a total of 90,000 altogether. Several of the stronger medical schools report that all of their graduates have been able for the last four or five years to obtain internships in a good hospital. Optional fifth-year courses have been arranged for in several medical schools, and in one made compulsory, as is the case in Germany, France and Great Britain. Dodson thinks that this is desirable and practicable in a school that is prepared for it and can furnish the proper conditions, but it will be a mistake for medical schools to adopt it, because the idea is in the air. He discusses the relations that should exist between medical schools and hospitals and the advantages to the latter from such connection, showing that the objections that have been made are invalid. The present unsatisfactory conditions of political control of public hospitals in this country is a drawback which must be overcome, and the medical school, with rare exceptions, must obtain its hospital connections with establishments on a pecuiary foundation distinct from that of the medical school itself, and he gives his ideas on the essentials which must be provided, the regulations prescribed for the intern and the relations of the members of the hospital staff, not members of its faculty, to the medical college. The rules adopted by Rush Medical College for its optional fifth year for the *cum laude* degree he considers perhaps a little too rigid and liable to take up rather too much of the intern's time. The amount of routine work demanded in many hospitals is too great, but this should not be the case. On account of the difficulties which he perceives in the way, great care and deliberation should be exercised on the part of any medical school proposing to make a fifth or intern year a compulsory addition to its curriculum.

A Skilful Chinese Physician of the Thirteenth Century.—The following extract is from the *San kou chin yen* (Story of the Kingdoms) by Lo Kuan Crung, who lived in the time of the Yuen Dynasty (1279-1368 A. D.). "Dr. Hua is a mighty skilful physician and such a one as is not often to be found. His administration of drugs and his use of acupuncture and counter-irritants are always followed by the speedy recovery of the patient. If the sick man is suffering from some internal complaints and the medicines produce no satisfactory result, Dr. Hua will administer a dose of hashish, under the influence of which the patient becomes as it were intoxicated with wine. He now takes a sharp knife and opens the abdomen, proceeding to wash the patient's viscera with medicinal liquids, but without causing him the slightest pain. The washing finished, he sews up the wound with medicated thread and puts over it a plaster, and by the end of a month or twenty days the place has sealed up. Such is his extraordinary skill." — *Northwest Medicine*, August, 1912.

TREATMENT OF ABDOMINAL ASCITES*

W. J. WILSON, JR., M.D.
Detroit

There is probably no development in the course of a number of diseases which is productive of more discomfort to the patient than abdominal ascites. Cabot[1] found that at the Massachusetts General Hospital, in 2,217 autopsies, there were 224 cases of ascites, showing that it is also of frequent occurrence. Of these 224 cases, eighty-nine came on from cardiac weakness, forty-four as the result of the presence of neoplasms, twenty-six as a consequence of renal disease, twenty-three from cirrhosis of the liver, fifteen from tubercular conditions and the others from a variety of causes. In a review of the cases occurring in the hospital service from 1870 to 1910, he found 1,397 cases consequent on cardiac weakness, 665 on renal disease, 325 from hepatic cirrhosis, 263 from peritoneal tuberculosis and eighty-six from intestinal obstruction.

Enormous quantities of fluid are retained in the abdomen. In 1721, Morand reported two cases of ascites, in one fifty-seven paracenteses, removing 970 pounds of fluid in twenty-two months, and in the other, by the same method, 1,708 pounds were withdrawn in ten months. More recently, Brand[2] reports that during ten years, he tapped a patient 150 times removing in all 360⅜ gallons of fluid.

The purpose of this paper is to call attention to the fact that these patients are many times neglected, and to urge the trial of some of the newer measures for their relief.

In undertaking the treatment of a case of this kind, a very careful examination of the patient is the first desideratum, determining in the first place, what is ordinarily not difficult to do, the first cause, as it will generally be either cardiac, renal or hepatic disease, a neoplasm, or tuberculosis. A full history is of special importance in the last two classes. The diet should be inquired into, especially to find out the fluid intake and the excretions, it being specially important by means of the estimation of the twenty-four-hour quantity of urine, to discover the amount of fluid loss by the ordinary channels.

GENERAL TREATMENT

The general treatment is then outlined. A diet with a low fluid content is customarily used; at any rate, it must be noted that the fluid loss is greater than the fluid intake. In many cases charming results are obtained by the use of absolutely dry diet. I am personally satisfied that it is important also to reduce the chlorin intake to a minimum. In one cardiac case in particular it was only after its institution that the edema disappeared, although all other usual measures had been tried.

The movements of the bowel should be increased by means of saline cathartics, usually one dram of magnesium sulphate being given every morning, increasing one dram a day, until the proper dose to produce two or three watery evacuations is

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

1. Cabot: Am. Jour. of Med. Sc., Jan. 1912.
2. Brand: Med. News, Apr. 2, 1904.

discovered, when this is made a part of the daily routine. When the urine is insufficient in quantity, potassium bitartrate may be used both for its cathartic and diuretic effects, or where a stronger diuretic is indicated, there being no signs of acute nephritis, either theobromin and sodium salicylate, or caffein and sodium salicylate, which I have found especially serviceable in pulmonary edemas, may be used. When this renal insufficiency as well as the ascites are due to cardiac weakness, these same measures are used and treatment directed to the heart is begun. Digitalis is here supremely indicated, whether there is simply muscular weakness or incompensation developing as the result of mitral or aortic lesions. Strophanthin in 1 : 1,000 solution used intravenously can be depended on to produce the desired effects, and should be tried in all desperate cases. The use of some quieting agent is often necessary. The milder agents for this purpose may be used, such as the bromids or the valerianates, but resort to codein in ¼- to ½-grain doses three times a day will often change a restless, retrograding patient into a quiet steadily improving one. It is needless to state that this remedy should be withdrawn at the earliest possible moment.

CONTINUOUS DRAINAGE

When these measures and also the use of hot packs, etc., have failed, the usual custom is to resort to tapping, a measure which dates back some hundreds of years. and generally at this point our attempts at relieving our patients rest. Caille,[3] in 1882, however, reported two cases which he treated by continuous drainage, and in one a rubber cannula was left *in situ* about nine weeks, the opening closing spontaneously four weeks later, both cases showing marked improvement. Turner[4] says there is a tendency to dispense with drainage, because of the inconvenience of the tube, and the risk of septic peritonitis, but declares he has never seen a case die from sepsis, and to his mind drainage is important, as some cases have been cured by this measure alone. It is to this measure I wish to give special emphasis at this time on account of some recent experiences with it in connection with three cases.

CASE REPORTS

CASE 1.—The first case I saw in the fall of 1909 was a cardio-renal one; a man 55 years old with great diminution in the urinary quantity, large amount of albumin and casts with mitral regurgitation, marked abdominal ascites. The patient could only sleep in an upright position, suffering greatly from orthopnea, and had not been in bed for weeks. He became very ill about Christmas and was considerably relieved by tapping. As his trouble recurred as soon as the wound closed we determined to do continuous drainage, which was done, using for the purpose a female bent glass catheter to which was attached a small piece of rubber tubing controlled by a valve. The tube was opened night and morning and the fluid collected allowed to drain and the glass catheter removed at least once a week and cleansed, and at other times if obstructed. The tube was left in between three and four weeks at the end of which time it was removed. Almost immediately after insertion of the tube improvement began. The urine increased in quantity, the albumin decreasing, his appetite returned and he was able to sleep in bed. This patient died seventeen months later, falling dead upon the street. There was some recurrence of ascites but only enough to necessitate a single paracentesis. This man's life was therefore prolonged and made far more comfortable by this means.

CASE 2.—A recent case, Mrs. B., 61 years old, a case of general arterio-sclerosis with failing heart, with marked edema in lower extremities and abdominal ascites, suffered greatly from anginal pains in the abdomen, was drained Jan. 9, 1912, in the same way, the tube being removed January 25. On the first insertion of the tube 2 gallons of fluid escaped. She was much relieved by this measure, the pains were practically done away with,

3. Caille: N. Y. Med. Jour., 1882.
4. Turner: British Med. Jour., Oct. 23, 1909.

and the patient expressed great satisfaction with the procedure and result. On February 5 unfortunately for further observation of the case, an attack of angina pectoris supervened with a fatal outcome.

Case 3.—Another case in St. Marys Hospital occurring in Dr. Donald's service in May, I drained in the same way, but the tube was only necessary three days. This was a case of plain cardiac weakness following mitral regugitation and the usual remedies digitalis in the form of the tincture and digipuratum one tablet three times a day, with the administration of saline every morning combined with a dry diet, sufficed to relieve this patient, who when she came into the hospital was so anasarcous there was oozing of fluid from the abdominal flanks as well as the legs, and the patient had to sleep in the upright position, being unable to move about.

By courtesy of my father, Dr. W. J. Wilson, Sr., I am able to report two cases, one a cardio-renal case and the other a case of hepatic cirrhosis, both drained in this way with happy results, rubber drainage being used in both cases. As a result of experience with this method, it seems to me to merit wider use, or at least trial before attempting some of the more radical procedures which are now being used.

OPERATIVE PROCEDURES

The subcutaneous method is now made use of by several operators. Piper's[5] method consists in opening up the crural canal and stitching it open so that continuous drainage from the abdomen through it into the subcutaneous tissues was secured. Obviously this treatment is only of value where the cause of the stasis is in the abdomen, particular in cirrhosis of the liver. He reports great relief in one case. Buttons consisting of perforated glass cylinders, expanded into a flange at each end, the largest size measuring 1 inch across the flange, and having a canal 1/12 inch in diameter, are also used. When these are used the omentum is first removed to a point well above the upper point of the incision, and the button inserted, one flange resting inside the peritoneum, the other on the abdominal aponeurosis. Paterson[6] reports their use in several cases of ascites secondary to malignant diseases, and also in cases of cirrhosis of the liver with marked diminution of the abdominal distention and great relief to the patient.

Implantation of the saphenous vein for ascites due to hepatic cirrhosis has also been done with success where the vein is not either excessively small nor occluded. Volarelli[7] reviews the five cases on record, three with success, as the conditions in the vein were favorable.

The most extensive operation is described by Ram,[8] who describes his procedure in a patient who had been tapped a number of times over a two-year period for an ascites due to cirrhosis of the liver. The abdomen was opened through the right rectus, the incision 6 inches long being made, extending from a point 3 inches below the umbilicus. When the omentum was found crumpled up and already adherent to the bowels, the anterior surface was rubbed and stitched up to the parietal peritoneum, around the umbilicus and on either side of the incision.

The anterior and outer surfaces of the liver were rubbed with gauze as well as the parietal peritoneum opposing these surfaces. A drainage tube was put in the middle line 2 inches above the pubes. On the tenth day the tube was taken out. The woman has not been tapped for the last ten months, there is no fluid present, and she is about her usual work. As necropsies have shown that Nature many times pro-

5. Piper: Australian Med. Jour., Jan. 13, 1912.

6. Paterson: London Lancet, Oct. 29, 1910.

7. Volarelli: Policlinico, Rome, Nov. 20, 1910.

8. Ram: British Med. Jour., July, 17, 1909.

duces a spontaneous relief in this class of cases by these very means, this operation is on a rational basis and may be expected to bring results in suitable cases.

CONCLUSIONS

1. There is general neglect of attempts at improvement in management of our cases of abdominal ascites.

2. These patients' lives may be prolonged and made more comfortable by various simple operative procedures.

3. When dietetic and drug measures fail to relieve, continuous drainage should be instituted, except in syphilitic cases where there is no improvement.

4. When ascites recurs after the removal of the tube in cases due to local conditions in the abdomen, drainage into the subcutaneous tissues may be used, or a more extensive operation in suitable cases, whereby adhesions may be set up between omentum, liver and spleen and the parietal peritoneum. In drainage into subcutaneous tissues, when there is a new growth or tuberculosis of the peritoneum the possibility of spreading the disease must be borne in mind.

WHO SHALL PAY?

Why should the household in which a case of *small-pox* develops (as a consequence of non-vaccination through neglect or refusal) become a charge upon the municipality or county, except in strictly indigent cases?

Why should the household in which a case of *typhoid fever* develops (as a consequence of drinking city water contaminated with city sewage) not become a charge against the municipality regardless of the financial conditions of the case? . . . That a hundred cases of small-pox should cost a county $25,000, and two hundred cases of typhoid fever should cost the county only a couple hundred dollars is not consistent. Too many people are too well paid for having small-pox. It is time that we take care of the family invaded by typhoid fever due to improperly protected public water supplies, and let the man who gets small-pox because of non-vaccination, hustle to pay his own bills.—*Public Health*, Michigan, August, 1912.

In Michigan more than 200 people die of tuberculosis each month, year in and year out; the economic loss to Michigan due to tuberculosis is $20,000,000 annually; 52 per cent. of the school teachers who die between the ages of 25 and 35 in Michigan, die of tuberculosis; one-fourth of all the people who die between ages of 25 and 35 in Michigan, die of tuberculosis.—*Public Health, Michigan*, August, 1912.

SURGICAL SUGGESTIONS

American Journal of Surgery

If the administration of thyroid extract to a patient suspected of exophthalmic goiter increases the symptoms the diagnosis is more probable.

Pneumogastric paralysis after an operation involving manipulations about the nerve, *e. g.*, removal of tuberculous cervical lymph nodes does not necessarily indicate that the nerve has been accidently cut or tied. The condition may be transitory and result from traumatic or inflammatory irritation.

When there is persistent irritation of the throat without local cause, examine the chest. This may be one of the earliest symptoms of mediastinal tumor or enlarged bronchial glands.

Irrigation of the throat with ice water from a fountain syringe will relieve the congestion and the pain in acute follicular tonsillitis.

Silver wire sutures and wire filigree are useful in those hernioplasties in which a large gap cannot be closed by approximation of the tissues, or in which the tissues are so thin that when approximated, they cannot be expected to provide support. In all other hernioplasties is has not been demonstrated that wire possesses any advantage over well chromicized catgut or kangaroo tendon. The prevention of recurrence, in hernioplasty, depends not on what the surgeon puts in his suture, but on what he puts his suture in.

THE USE OF SALVARSAN IN INTESTINAL KERATITIS; REPORT OF TEN CASES*

WALTER R. PARKER, B.S., M.D.
Ann Arbor, Mich.

The results obtained from the use of salvarsan in interstitial keratitis have been somewhat variable, but by far the majority of the published reports lead to the conclusion that it has a markedly beneficial effect on the vascularity and consequent subjective symptoms of the disease, but has little or no effect on the corneal infiltration.

As early as 1910 Lindenmeyer, in a report of five cases in which he had administered "606," makes the following statement:

"All the cases treated by the new remedy had already been submitted to an inunction cure, some of them on several occasions. In four of the cases, there had been marked photophobia before the injections. For the most part the eyes were only half opened and were very sensitive to the ordinary examination. The photophobia had nearly completely disappeared sometimes in ten hours, but certainly in twenty-four hours after the injection. The eyes could be well opened and examined under local illumination. No results as regards the corneal process itself, has so far been observed, but the period of observation has been too short to allow of a trustworthy opinion being formed on this point."

Denig (1910) stated that two cases of interstitial keratitis rapidly responded to salvarsan. Nacht's experience (1910) comprises thirteen cases of ocular syphilis treated with "606." Ten were failures, three successes. Of the ten failures, five were tabetic atrophies, the remainder parenchymatous keratitis, chronic iridocyclitis and vitreous opacities. Wilbo, on the other hand reports the cure of two cases of interstitial keratitis both giving positive Wassermann reactions. Fleming's reports of the action of salvarsan in 180 cases of ocular syphilis includes twelve cases of interstitial keratitis not one of which showed a definite recovery four months after its administration; in some the inflammatory signs diminished, in others there was no improvement. Uhthoff (1911) found salvarsan of no avail in interstitial keratitis. Wickerkiewicz expressed himself as follows:

"Apart then from the very remarkable effect of salvarsan in cutting short a severe inflammatory condition, I am in agreement with those of my colleagues who are not enchanted with salvarsan in the treatment of congenital syphilitic interstitial keratitis, while at the same time I do not deny to it any effect. The truth lies midway. Seidal E. treated nine cases of acute interstitial keratitis with satisfactory results in all except two cases. Schnawdigel after treating twenty cases reported admirable success in all but one case. The failure was in a case of interstitial keratitis, commenting upon which the author remarks that, owing to the indirect blood-supply of the tissue, the cornea is one of the most difficult parts of the body for the action of antisyphilitic remedies."

The results I wish to present to the society were obtained from a series of ten cases of specific interstitial keratitis. Eight of them from the Ophthalmological Clinic of the University of Michigan and

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

two from private records. Five were males and five females, in ages varying from 5 years to 19 years. Nine were affected with interstitial keratitis of the hereditary type and one of acquired. All gave a positive Wassermann.

All states of the disease are represented, the time elapsing from the time of onset until they came under observation ranged from three weeks to four years. All were treated with salvarsan, in doses from 0.2 gm. to 0.6 gm. according to the age of the patient. Four received a single dose, four two doses; one three, and one five. The local treatment consisted of the use of atropin, hot-water compresses and dionin 10 per cent. sol; the general treatment in addition to the salvarsan included syrup of the iodid of iron, or mercury, either internally or by inunctions.

A detailed record of the cases will not be given, but an outline of the history of each case follows:

Case 1.—I. C., girl, aged 13 (first cousin of Cases 2 and 3), first visited the University Clinic on February 26, 1911, complaining of dimness of vision and marked photophobia of two months' duration. Examination revealed a typical case of interstitial keratitis of the inflammatory type. The vision was reduced to fingers in each eye. Wassermann was positive. She was treated with syrup of the iodid of iron internally, and atropine, hot water compresses locally. This treatment was continued for five months and no observable effects were produced. At the expiration of this time, a dose 0.2 gm. of salvarsan was given. In 24 hours the photophobia had disappeared and the vascularity in both the conjunctiva and cornea had become markedly lessened. The eyes could be kept open and an examination that had previously been almost impossible could now be made without difficulty. The infiltration in the cornea did not show marked change although on January 25, 1912, eleven months after her appearance at the clinic, the vision in each eye was 6/6 and the cornea was nearly clear.

Case 2.—N. C., girl, aged 14 years. When first seen on November 23, 1911, had suffered from the effects of interstitial keratitis for the preceding eighteen months. Vision in each eye was 3/60. She gave a history of having had intense photophobia for the first six months, but during the past year there had been but slight intolerance of light. Examination revealed slight injection of bulbar conjunctiva with some superficial and deep injection of the cornea. The whole cornea was infiltrated, somewhat mottled in appearance. Wassermann positive. She was treated with the regular local remedies and syrup of the iodid of iron for a period of 3 months, without any marked improvement. Following this a dose of salvarsan was given intravenously. This was followed by marked improvement in the vascularity, but again with little or no improvement in the infiltration. On April 26, 1912, more than six months after the salvarsan had been administered the Wassermann was negative, eye quiet, but no more effect in the infiltration was noted than might have followed the regular treatment. Vision in each eye was 6/15.

Case 3.—I. C., girl, aged 10 years, sister of Case 2. First seen Nov. 23, 1911, vision in each eye 5/60. She had suffered from inflammation in the eyes with impaired vision for the preceding four years. At the time of the first examination there was no photophobia and the cornea showed but slight vascularity. There was marked infiltration scattered irregularly throughout the deeper layers of the cornea. Wassermann was positive. In addition to the regular local treatment and the syrup of the iodid of iron, this patient received 0.3 gm. of salvarsan. No marked change followed although the Wassermann was negative on April 30, 1912, six months after the salvarsan had been administered, and on June 6, 1912, the vision was O. D. 6/12, O. S. 6/5. Whether the use of salvarsan had any beneficial effect or not, I am unable to say.

Case 4.—E. R., male, aged 19, showed typical case of interstitial keratitis of the inflammatory type, of four months' duration. The vascularity was well marked and photophobia intense. Wassermann was positive. Local treatment and protiodid of mercury internally. Salvarsan 0.6 gm. was given intravenously and repeated after an interval of four weeks. On the second day following the administration of the salvarsan, the vascularity was markedly diminished and the photophobia nearly gone.

The vision could not be taken at first on account of the photophobia. Six weeks after the initial dose of salvarsan the vision was O. D. 5/15, O. S. 5/15. In this case the disappearance of the infiltration was more marked than usual.

Case 5.—Male, aged 18. First seen Feb. 9, 1912. For preceding 4 weeks had suffered dimness of vision with intense photophobia and excessive lachrymation, coming on in the course of a few days. His back was covered with a copper colored rash, and he had mucous patches on the posterior wall of his pharynx. Conjunctiva was extremely congested and cornea showed deep infiltration. Iris inflamed, pupil contracted, many posterior adhesions. Wassermann positive. A dose of 0.6 gm. salvarsan was given intravenously and repeated in four weeks. After the first injection the pupil partially dilated and there was a marked improvement in the subjective symptoms. After the second injection of salvarsan, there was a more decided improvement in the photophobia and the vascularity greatly diminished. One week after the second injection he left the hospital and failed to report for re-test. The vision which we were unable to take at first was O. D. 1/60, O. S. 6/20.

Case 6.—A. W., girl, aged 15 years. Old scar in cornea following interstitial keratitis of four years' standing. Wassermann positive. Salvarsan administered without appreciable effect.

Case 7.—A. W., girl, aged 5 years, sister of Case 6. First seen Sept. 29, 1911. Interstitial keratitis of inflammatory type of 3 weeks' duration. Wassermann positive. Salvarsan 0.4 administered intravenously. Subjective symptoms improved. No later records obtainable.

Case 8.—L. F., male, aged 18 years. First seen March 18, 1912, interstitial keratitis right eye, inflammatory type, vision O. D. 5/60, O. S. 5/15. Some photophobia. Deep and superficial injection of right cornea. Given hot water and atropin locally, protiodid of mercury internally. After three weeks' treatment the Wassermann was positive. A dose of 0.6 gm. of salvarsan was administered intravenously. No marked improvement in the symptoms followed. One week later a second dose of 0.6 gm. of salvarsan was given. Marked improvement of subjective symptoms in less than 24 hours. After four weeks the Wassermann was still positive when a third dose of 0.6 gm. of salvarsan was given. The third dose was followed by a marked improvement in the subjective symptoms. Wassermann negative.

Case 9.—Male, aged 19. First seen Jan. 26, 1912. Well marked case of keratitis produnda of Fuchs with iritis of 3 weeks' duration. Vision O. D. was 15/200; O. S. fingers 1 ft. Atropin and hot water were used locally and inunction of Vasogen twice daily. Wassermann positive. 0.6 gm. salvarsan administered and not repeated. The subjective symptoms were somewhat relieved in spite of the fact that the Wassermann remained positive until two months after the treatment was begun. Three months after treatment was instituted the vision was O. D. 15/30, O. S. 15/20. The course of the disease was shorter in this case than in the average.

Case 10.—Male, aged 17 years. First seen March 4, 1912. Typical case of interstitial keratitis of the inflammatory type, first appearing in right eye. The left eye became involved while under observation, in spite of inunctions of mercury and injections intravenously of salvarsan. Vision, O. D. objects, O. S. under atropin 15/30. Five Wassermann examinations were made, all but one being positive. Following each positive Wassermann test a dose of salvarsan was given, five in all and not until the fifth dose was given could any improvement be noted in the symptoms. But after the fifth dose there was a most remarkable relief of all subjective symptoms. The photophobia which had been very severe disappeared almost entirely within 24 hours and the vascularity diminished markedly, 3 days later, however, the Wassermann was positive. As in the other cases, the infiltration does not clear in proportion to the subjective symptoms.

The above series confirm for the most part the opinion of the majority of observers on this subject, namely, that salvarsan in specific interstitial keratitis has a marked beneficial effect on the subjective symptoms, but has little or no effect on the infiltration. In Case 10, however, the course of the disease in the eye which developed last was shorter in duration, and the vision now is better in the eye last involved. It would appear, therefore, that the constitutional treatment had modified the course of the disease.

In two cases, the syrup of the iodid of iron had been administered from three to five months, and at the end of that time the Wassermann test was still positive. It would seem, therefore, from these two cases that the administration of iodin in this form had had no effect whatever on the disease itself.

The best results should be obtained in interstitial keratitis as in other manifestations of syphilis, by the use of the remedy that best combats the general infection. That salvarsan alone will do this has not yet been proven. All observers now practically agree that salvarsan when used should be accompanied by mercury in some form.

The above cases are offered for the purpose of extending the data to the list of cases already reported, in the hope that ultimately enough material may be collected to make definite conclusions possible.

I am indebted to Dr. Slocum and Dr. Benedict of the Ophthalmological Clinic of the University of Michigan for notes and treatment of the first eight cases in this series, and to Dr. Waldeck and Dr. Sill of Detroit for like assistance in the last two cases. To these gentlemen I wish to express my thanks and appreciation.

TRAINING OF THE PRACTITIONER

In an interesting address delivered before the graduating class of the St. Louis (Mo.) University Medical School, May 31, 1912 (*Journal A. M. A.*, August 24), S. J. Meltzer, New York, emphasizes the fact that the medical profession of any country is measured by the standing of the general practitioner and not by that of its leaders. He does not advise unattainable ideals, but urges on the graduate in medicine the necessity of acquiring the fundamentals and essentials of medical practice. The general practitioner should try to know from the beginning the essential facts regarding the serious diseases and emergencies which he is likely to meet. He does not mean to have him take up the theoretical questions at first, but rather to master the practical sides. Be careful, he says, in the selection of text-books, picking out the important chapters, and not taking for granted that one knows everything because one has successfully passed examinations. Remember that book knowledge only becomes valuable after it has been tested in practice. He advises the student to get, if possible, a dispensary service, but be on his guard against superficial and careless methods. A practice slowly gained is better for ultimate success than one rapidly reached. While learning in practice how to meet the usual disorders, one can fill up the gaps in his knowledge regarding the less frequent diseases, and can learn the technic of the ordinary operations, the diagnostic and therapeutic measures and the technic of microscopic work. Further than this, every practical physician should try to keep up some affiliations with the scientific side of medicine, and it would be a great help if he can familiarize himself with some important chapter of physical or chemical pathology or of physiologic pathology, and thus train his mind to meet the problems and elevate his standard. Meltzer does not encourage any too general skepticism as to the value of medicinal agents, but he warns against the danger of unequivocally accepting the statements in favor of special drugs and methods. He says, do not practice psychotherapy consciously, for thus one trains himself to be a humbug. It is the duty of every enlightened physician to do what he can to protect the public, but at the same time he ought to see that no measures, and especially no harsh measures, should be taken against stricken patients "based only on whims and ephemeral theories of half-baked sanitarians," and that any measures should not be carried out with harshness. Lastly, he mentions the high standard of ethics demanded of the physician by the higher trust placed in his profession. A physician who is ethically not higher in his standards than the average man is lower.

THE NATURE, SYMPTOMS AND TREATMENT OF THE TOXEMIAS OF PREGNANCY*

J. B. WHINERY, M.D.
Grand Rapids, Mich.

In trying to reach a satisfactory explanation as to the exact nature of the toxemias of pregnancy, we are confronted by a maze of theories, none of which gives us a positive answer. The course of normal pregnancy is in many instances but little removed from the pathologic as evidenced by the disturbances of the gastro-intestinal tract, nervous system and circulation, due to intoxication, altered metabolism or pressure from the enlarging uterus. Aside from the usual bodily functions, the maternal organism is called upon to elaborate and supply nourishment for the growing child and to receive and eliminate many waste products of fetal metabolism.

Autopsies performed on pregnant women who have died from some accidental cause show very constant pathologic conditions in various organs. The kidneys show a varying degree of fatty and parenchymatous degeneration, while the liver shows fatty degeneration in the center of the lobules, atypical distribution of glycogen and a moderate amount of bile stasis. These findings together with the symptoms prevalent during pregnancy show various degrees of toxemia. Ewing[1] states that pernicious vomiting, acute yellow atrophy and eclampsia are somewhat different clinical manifestations of essentially the same disorder of metabolism. We have to choose from a number of theories among which may be noted:

1. A previous pathologic change in the kidneys or liver.

2. Errors in diet and intestinal intoxication.

3. Disturbance of the thyroid, parathyroid or adrenal glands.

4. Cessation of menstruation.

5. The presence of a specific toxin in the placenta.

6. Veit's theory of deportation of placental cells.

7. A change in the proportion of sodium, potassium and lime salts in the circulating fluid.

8. A very recent theory advanced by Healy and Kastle[2] comparing eclampsia with milk fever in cattle and referring the cause of both conditions to a toxin elaborated in the milk glands.

In general the relationship between the various forms of toxemia in pregnancy is not clearly understood. There appear to be many intermediate and atypical cases, and a case of hyperemesis or nephritis may later in pregnancy become a typical case of eclampsia. Murray[3] believes that all the pathologic lesions found in the various clinical forms are caused by one type of toxin acting under different circumstances. Whitridge Williams, on the

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

1. Ewing: Am. Jour. Med. Sc., 1910, cxxxix, 828.

2. Healy and Kastle: Jour. Infect. Dis., 1912, x, 226.

3. Murray: Jour. Obst. and Gynec. Brit. Emp., 1910, ii, 225.

other hand, thinks that the pathologic picture found in fatal vomiting is so different from that in eclampsia that no one could assign to them a common cause. He would even go so far as to say that there are different forms of eclampsia due to different causes. It is generally agreed:

1. That all these conditions are of a toxic nature.

2. That the nervous manifestations are not the cause, but the result of the condition.

3. That many factors besides absorption of a definite poison from the fetus and placenta are concerned in making up the clinical picture of the various types of toxemia.

4. That if a single toxin or type of toxin is the cause of all these conditions we do not at present know its exact nature, its mode of action or its point of origin.

It is believed by a few observers that many of the findings in hyperemesis are the result of starvation and that the peculiar findings in the urine are due largely to starvation rather than to toxic influences. They also believe that the pathologic findings in the liver are due to the same cause.

Hyperemesis gravidarum, or toxic vomiting of pregnancy, is an exaggeration of a usual morning sickness or nausea of pregnancy. A persistence of the vomiting soon results in a loss in weight, symptoms of starvation, increase in pulse rate and marked nervous disturbances. Some writers of recognized authority still maintain that a certain percentage of cases of pernicious vomiting are due to reflex rather than toxic causes. The urinary findings are of considerable value in both diagnosis and prognosis. Hotaling[4] lays great stress on the value of quantitative estimation of the different forms of nitrogen eliminated in the urine. He calls those cases toxic in which the ammonia nitrogen rises to 10 per cent. or over. If it is below this point he designates the case hysterical vomiting. In judging the value of these urinary examinations we must always take into consideration the diet of the patient, which in private practice is more or less uncertain. The incessant vomiting, too, obscures the amount of nitrogen obtained, and the starvation itself produces changes in the urinary excretion not unlike those supposed to result from the toxemia. Repeated analyses of the urine should be made in order to insure accuracy of result. The urine is usually free from albumin and casts until the grave symptoms of the terminal stage are reached.

There is a growing tendency toward the belief that the disturbance of function of such glands as the thyroid, parathyroid and adrenals has something to do with the toxemias of pregnancy. Experiments have proven that there is an increase in ammonia in the urine after the removal of the thyroid and parathyroid glands, and that there is a loss of calcium in the circulating fluid after the removal of the parathyroids.[5] (The therapeutic tests by the use of thyroid extract, epinephrin and calcium lactate have helped to strengthen this belief.) It is quite probable that toxemia is due to an accumulation in the mother of a whole series of toxic substances whose neutralization or excretion has not been fully accomplished by the over-taxed organs. We cannot at present say just how much the liver and kidneys are concerned in the early forms of toxemia, but it is probable that the liver is affected before clinical signs are manifest.

In a considerable number of cases showing toxic symptoms there are found definite signs of a nephritis. The nephritis may have existed previous to the pregnancy, may have been caused by a toxemia

4. Hotaling: Am. Jour. Obst., 1911, p. 952.

5. Bull. Johns Hopkins Hosp., 1908, xix, 91.

in a previous pregnancy, or may be the direct result of an existing toxemia. There is also a possibility of an acute nephritis developing from other causes during pregnancy. The typical kidney of pregnancy is more of a degenerative process than an inflammatory one and the ultimate prognosis is fairly good, as the condition usually clears up promptly when the fetus is expelled. A kidney which is already damaged by acute or chronic inflammation is not well able to stand the extra strain thrown on it by a normal pregnancy and much less able if there is toxemia.

We come now to a definite, clear-cut clinical picture—that of eclampsia. Eclampsia usually occurs in the later months of pregnancy, more frequently just before, during or after labor than earlier. Its frequency is usually given as one case in 350 pregnancies, and the mortality varies from 20 to 35 per cent.

Pathologically there are found as the most constant and characteristic lesions degeneration of the cells with necrosis at the periphery of the lobules of the liver, thrombosis of the capillaries, and hemorrhages. There are also found acute nephritis with necrosis of the epithelial cells of the urinary tubules and small hemorrhagic areas in the nervous system.

Veit elaborated a theory that portions of the chorionic villi were deported into the maternal blood-vessels, and that physiologically these portions were dissolved by certain specific lytic bodies in the maternal blood. He assumed that in some conditions larger quantities of the villi passed over than could be broken up by the lysins and that these unbroken or unneutralized syncytial cells acted as the toxin which produced the pathologic lesions and the eclamptic seizure. Many experiments have been performed bearing on this theory, but they have so far failed to satisfactorily prove it.

A great deal has been said in the last few years about the subject of anaphylaxis and its relation to eclampsia. Rosenau and Anderson found that repeated injections into a guinea-pig of human and animal placental extracts produced cyanosis, convulsions and death. Comparing these results with anaphylactic phenomena in general they concluded that the injections of placental extracts stimulated the cells of the host to form antibodies or, in other words, the guinea-pig became sensitized against placental cells. Similar results have been obtained by many others. The recent work of Johnstone in England, Felländer in Germany and Frank and Heimann in this country all point to the fact that the host's blood may be sensitized to any proteid from an animal of foreign species, but that placental cells do not cause the formation of a specific lytic substance.

Among the newer theories which are receiving only scant support is that of Dienst,[6] who thinks that there is an exaggeration of the normal leukocytosis and that the breaking up of these leukocytes sets free large amounts of thrombo kinase which in turn forms excessive amounts of fibrin ferment. From this we have the thrombotic processes in the liver and a resulting hepatic toxemia.

TREATMENT

A great many remedies, none of which is a specific, have been used in the treatment of pernicious vomiting. I will not take time to enumerate the older remedies so familiar to all of you. This list includes not only the various drugs, but also those methods of treatment which have been distinctly applied to the uterus itself. In many cases good results have been obtained from these older methods and

6. Dienst: Am. Jour. Obst., May, 1912, p. 876.

they should not be altogether discarded. The matter of diet will depend largely on the idiosyncrasies of the patient, and will have to be carefully selected for each individual case. At times very encouraging results are obtained by giving the stomach absolute rest and resorting to the use of nutritive enemata. Stomach lavage once or twice a day should be given a thorough trial. A solution of cane sugar or dextrose may be given by the stomach, bowel, subcutaneous or intravenous route to help in a way to overcome the effects of starvation.

Brown[7] has used lactate of calcium in 30-grain doses every two hours, added to nutritive enemata with apparently good results. On account of the probable autotoxic origin of pernicious vomiting from derangement of the function of the thyroid, parathyroid or adrenal glands a trial of the extract of these bodies should be made. I wish to say a word of caution against persisting in any conservative method of treatment so long that the patient will not recover even after emptying the uterus on account of the profound pathologic changes in the internal organs. An increase in pulse rate above 100 with slight rises of temperature and beginning mental disturbances certainly calls for radical measures. At this stage the condition of the patient is serious and the prognosis doubtful under the most skilful treatment. Before the third month the uterus is best emptied by means of a simple dilatation and the use of the finger, the curet or sponge forcepts. After the third month, unless the uterus can be emptied by the means just mentioned vaginal cesarean section is probably the most satisfactory way of dealing with the condition. The method that causes the smallest amount of traumatism and is least likely to produce shock is the one to select.

In any of the toxemias of pregnancy, if an anesthetic must be administered, gas is much the safest, and ether is much preferable to chloroform on account of the latter's toxic effect on the liver.

In the treatment of the preeclamptic toxemias, early recognition and prophylactic measures will in many cases avert more serious complications later on. This involves careful supervision of the patient from the beginning of the pregnancy. Attention should be given to the eliminating organs, with special reference to the examination of the urine, not only as regards quantity, specific gravity and the detection of albumin and casts, but also for the estimation of the urea and nitrogen content and the amount of indican. The proportion of the different nitrogen combinations changes according to the degree of toxemia. Williams regards a high ammonia coefficient as a danger signal and believes that a continuation of the same under appropriate treatment is an indication for the termination of pregnancy.

The subjective symptoms of the pregnant woman are worthy of our closest investigation. A persistent headache, various forms of neuralgia, a more or less constant pain in the back, mental torpor, epigastric disturbance, edema of the face or extremities and disturbances of vision all demand early and constant attention.

The routine taking of blood-pressure in pregnancy is almost as important as the examination of urine and will sometimes give us hints of the true condition before the trouble is revealed in the urine. The normal systolic blood-pressure in non-pregnant women has been found by Judd[8] to vary from 110 to 120 mm. mercury. In normal pregnancy he was unable to show an increase of blood-pressure with the advance of pregnancy. Accompanying

7. Brown: Am. Jour. Obst., lxv, 980.

8. Judd: Am. Jour. Obst., lxv, 429.

the physiologic depression of pernicious vomiting, there is a low blood-pressure, but in the toxic state leading to eclampsia the blood-pressure gradually rises and may reach the height of 300 mm. during an eclamptic seizure. In routine examinations an increase of blood-pressure to 140 mm. or 150 mm. generally demands active treatment.

Attention to the hygiene, careful regulation of the diet and a thorough cleansing of the intestinal tract will change many preeclamptic to normal conditions. In threatened or active eclampsia milk is the best food and should form the diet until marked improvement is noted.

A threatened or active eclampsia demands the most rapid elimination of toxins. Croton oil or some other brisk and thorough cathartic should be administered and hot packs with the drinking of a large amount of water will eliminate a large amount of poison through the skin. Venesection often affords great benefit. By the careful use of morphin and chloral I feel that I have secured good results, notwithstanding the criticisms made with regard to the use of these drugs. I have had no experience with veratrum viride. There has been a growing tendency toward the more conservative line of treatment for eclampsia. The convulsions are regarded as the effect of the toxic condition on the central nervous system, and of themselves do not constitute sufficient cause for the rapid emptying of the uterus. It is hard for one who has been accustomed to regard the convulsions as a serious symptom demanding active interference to reconcile himself to the more recent theory of delay after the convulsions have begun. In eclampsia the uterus may be emptied by one of several methods. By rupture of the membranes; the use of bags; manual dilatation of the cervix; vaginal cesarean section, or by the rapid delivery of the child by version or by the use of forceps.

Serum Treatment of Cancer.—Twenty-seven cases of carcinoma and sarcoma treated by injections of ascitic fluid from a cancerous patient (whose case is also given) were reported by E. J. Ill and W. D. Miningham, Newark, N. J. (*Journal A. M. A.*, August 17). The fluid used was the same kind as that employed by Dr. Hodenpyl, though they were not aware of the fact when they began their treatments. The fluid was drawn under the most careful aseptic conditions into sterilized bottles which were kept in a refrigerator, and all injections were given by siphoning the fluid directly from the container through a sterile rubber tube to the lower end of which a needle was attached. No cures were obtained, but the improvement in subjective symptoms was very marked in most cases and the last reports of some patients were that this improvement still continued. In one case where there was glycosuria it discontinued during the time of injection but reappeared on discontinuance. Only one of the patients knew the character of his disease while being treated. The authors think that their experience, while unsatisfactory as regards cure, is of sufficient interest to deserve publication. The article is illustrated.

If 1 ounce of essential oil of orange and 3 ounces of water are placed in the hot water bottle of Gwathmey's three bottle vapor anesthesia apparatus and ether in the other two bottles, not only is the odor of the anesthetic completely disguised, so that the patient is unable to tell when its administration begins, but other important results are obtained; the patient passes into surgical unconsciousness without any preliminary stage of excitement, anesthesia is easily maintained with less than half the quantity of ether required by the usual cone method, and the patient quickly and comfortably regains consciousness without vomiting or even nausea, except in very rare instances.—*New York Medical Journal*, Sept. 14, 1912.

THE SURGICAL TONSIL, WITH A DISCUSSION OF THE INDICATIONS AND TECHNIC REQUIRED FOR ENUCLEATION*

B. R. SHURLY, M.D.
Detroit

The treatment of the various forms of pathologic tonsils should be selected after a careful investigation into the actual amount and variety of disease manifested by the given tonsil. It is therefore important to decide by personal observation, and a careful history of the objective and subjective symptoms developed.

The one popular method of procedure established and practiced by the leading laryngologists of the present time, in this country, is the revival of the ancient method of Celsus, viz., the complete enucleation of the tonsil. The furore that has swept over the new world demanding a tonsillectomy, if a remnant of tonsil tissue remains, has reached its zenith, so that methods of compromise will resume a place of recognition at least.

Complete enucleation is demanded in tonsillar tuberculosis, in tonsillar rheumatism, in cervical adenitis of definite tonsillar origin, and after suppurative tonsillitis or quinzy. It is a well recognized fact that scarlet fever, influenza, quinzy and tonsillitis are often direct etiologic factors in the development of the various types of Graves' disease. The inter-relation of the physiology of the tonsil and ductless glands is well known, but not scientifically elaborated. It is true that the complete removal of the tonsils is often attended by a subsequent diminution in hypertrophy of the thyroid gland.

Cases of chronic inflammation of the faucial tonsils without much enlargement occurring in adults and possessing a few pathologic crypts can often be successfully relieved by simple methods. The offending crypt should be enlarged with a suitable tonsil knife and curetted. It may be washed with peroxid of hydrogen or 1-3,000 mercuric chlorid solution by means of a small curve-pointed syringe. Fused nitrate of silver on a small probe may be passed into the crypt once or twice a week. In the fibrous variety, local applications prove of little service. In some cases the galvano-cautery will be useful when the tonsil is boggy and hyperemic with several pathologic crypts containing foul secretion or food particles. In these cases a fine pointed electrode passed at a red heat into the offending crypts will relieve the cough or other annoying symptoms by means of the resulting irritation of the burning rather than a complete destruction of tissue.

The selection of treatment is a matter for careful deliberation. All slightly hypertrophied or pathologic tonsils do not necessarily require tonsillectomy as advocated by some of our radical surgeons. It is possible and probable that the tonsil manufactures an internal secretion of some value, in early infancy at least.

The older methods, however, for reduction of enlarged tonsils such as ignipuncture, electrolysis, the galvano-cautery knife and the applications of escharotics such as

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

chromic acid, tri-chloracetic acid, London or Vienna paste have gone into just retirement. When operation is indicated and impossible on account of great danger from hemorrhage or anesthesia or systemic disease, these methods may be considered.

A large number of astringents and solutions containing iodin have been recommended from time to time as efficient in the reduction of enlarged tonsils. The use of these medicaments has proven so unsatisfactory that valuable time should not be wasted in resorting to surgical relief for the diseased tonsil. Then tonsillotomy or tonsillectomy must be performed. The former should be the method of choice when tonsils are simply hypertrophied and not otherwise diseased and when the services of a competent laryngologist cannot be obtained. The complete enucleation of the tonsil is not an operation to be undertaken without deliberation. It involves the most important problems of anesthesia, hemorrhage and technic. It is best performed in a hospital. Adults who are not nervous and excitable may be operated on with local anesthetics — menthol, cocain, and ac. carbolic equal parts may be applied and urea and quinin hydrochlorid, 1 per cent., injected in drops along the anterior and posterior pillars; or cocain 1 per cent. with adrenalin chlorid 1-10,000 may be chosen. Children and nervous women are more successfully operated under a general anesthetic as a rule. Ether is recognized as the chief of the list of anesthetics chosen for this operation. Chloroform is contra-indicated.

Hemorrhage at the time of operation should be controlled by artery forceps and ligature. Postoperative bleeding may require the application of adrenalin, alum, the hemostat or a general anesthetic and ligature.

In the last decade our literature has been flooded with articles on the subject of tonsils. Various instruments have been showered on the market, until the progressive laryngologist has found his offices filled with many useless ones. The question of technic must be settled by each individual operator for himself. The choice of anesthetic has been so thoroughly determined by custom and safety that the surgeon is not willing to depart from the administration of this choice — namely, ether.

The choice of a position is determined by training of the operator. In the New England States, the sitting posture with the head erect is selected. Under the teaching of Todd in Minnesota, the head is allowed to drop well back while the patient lies on the table. Those of us in the middle west prefer the reversed Sims position with the head on the side and inclined downward to allow the secretions to drain from the side of the mouth. In this position the lower tonsil is removed and a clear field remains for the enucleation of the upper tonsil. Some operators prefer to turn the patient to the opposite side for the removal of the second tonsil. The operation is facilitated by the use of a conducting tube apparatus, such as the Phil. A. Browne leading the vapor to the side of the mouth during etherization.

Four methods of technic are popular in this country. The finger enucleation: Sharp dissection with knives or scissors; blunt dissection with spuds, elevators and the snare; the Sluder tonsillotome with or without the snare attachment. Personally, I feel that none of these methods as classified appeal to the average laryngologist as suitable for all cases. Speed, dexterity and minimum of hemorrhage will result from a proper choice of instruments for the proper case.

If I were asked to throw about a hundred tonsil instruments in the ash barrel (where many of them belong) and retain

four in my possession, I would readily claim a Freer pillar knife, a Todd three-prong retractor, a Jackson tonsil artery forceps and a so-called Peters snare. The privilege of using a gloved index finger is of course retained for emergency and dissection as the condition demands. With this equipment tonsils may be successfully enucleated without injury to the pillars or soft palate.

The surgical tonsil may be defined as one which is so thoroughly diseased that surgery alone can remedy the condition. This question must be determined on the basis of pathology, and the amount of trouble arising therefrom. Tonsils *not* in this class should be allowed to remain unless we wish to bring this operation into disrepute.

The general practitioner with surgical inclination who enjoys this field of endeavor may readily master the difficulties of tonsillectomy. If the indications for a complete and thorough operation are present none other should be attempted. The peculiarities of the patient and the personal equation of the surgeon necessitate a wide difference in the choice of method.

DISCUSSION

DR. OTTO T. FREER, Chicago: My experience has not shown me that complete removal of the tonsil deprives the patient of anything needed by his organism, while I have found it better to leave the tonsil intact rather than to partially excise it, for the cut-off outlets of the follicles and of the supratonsillar fossa remaining in the portion left in the throat become strictured by the process of cicatrization so that decomposed secretions dam up in them and lead, as I have often observed, to recurrent peritonsillar abscesses in patients who have never had one.

Now as to methods of tonsillectomy. As stated in my description of my way of excising the tonsil in an article in the *Journal of the American Medical Association*, Vol. 52, page 547, 1909, the prevalent methods of both complete and incomplete removal of the tonsil are dictated by a surgical timidity which, by tearing out tonsils which should be cut out, more or less injures the throat and, in trying to avoid the lesser evil of hemorrhage, incurs the greater ones of sepsis and mutilation. I refer to the popular procedures of finger enucleation, the use of blunt separators with the wire snare and of crushing of the tonsil from its bed with a dull tonsillotome blade driven by an ecraseur screw. The evil which attaches to such blunt and necessarily forcible surgery, as elsewhere in the body, is excessive inflammatory reaction, the spread of septic material and injury to the delicate muscular structures of the palate.

There are many in the specialties who have had no general surgical training and hence permit an excessive dread of bleeding to cause them to resort to forcible evulsion where clean cutting gives much better results. What surgeon, for instance, would tear out a bubo or try to snare it from its bed? He would expect to spread infection and cause violent inflammation, and so would use his knife in preference. Many tonsils are analogous to a bubo and are not only septic themselves, but are also seated in peritonsillar tissue which is in a condition of chronic septic inflammation, easily aroused by forcible manipulation into acuteness. Hence varying degrees of inflammatory reaction and even gangrenous conditions often occur after these blunt operations, for the throat and mouth have a well known liability to gangrene. Dr. Dean of Iowa City collected the histories of numerous cases of sepsis after tonsillectomy, which, as I know, is nearly always performed at least partially by blunt dissection. I have seen two deaths in the practice of others following the wire snare operation with blunt dissection. In one of these the whole right side of the fauces became a pultacious mass of gangrenous sloughs; ulcerative endocarditis and pyemia followed. In contradistinction to these septic results there is scarcely any reaction after knife excision, there is no sepsis, not even fever and I have never seen hemorrhage that alarmed me, although I have practiced knife excision now for ten years. In addition to sepsis the blunt methods often tear away portions of the palate muscles and the wire frequently cuts off parts of the palate.

Those who have seen the clean cut cavity left after knife tonsillectomy, often a mere slit, will not return to the snare, not to speak of finger "enucleation." The perfect sparing of the palate with preservation of even the plica triangularis to line the tonsillar fossa, and so

keep the palate muscles from being cicatricially bound, is one of the chief merits of knife work.

In addition to tearing out the tonsil, the tonsillotome in its earlier and latest form is now used by many to take the place of the surgical skill which a mechanical appliance, necessarily fitted only to a few of the many varieties of tonsils, cannot supplant.

The advocates of the blunt method and the newer tonsillotome often show collections of completely removed tonsils to support their views. What I want to see is not the tonsils, but the throats from which they came. They are not always presentable.

My reason for this earnest advocacy of knife tonsillectomy is, that in spite of its being the only way to remove tonsils with the least injury and the best results, it is not appreciated. It is often stated concerning surgical methods that a number of them are equally good for accomplishing the same end and that the operator can choose the one which suits him best. As I have found the matter, there are many ways to imperfectly do an operation, but only one way to do it rightly, just as the shortest distance between two points is a straight line.

GENERAL FEDERATION OF WOMEN'S CLUBS ON PUBLIC HEALTH

One of the most important topics discussed at the eleventh biennial convention of the General Federation of Women's Clubs, held in San Francisco in July, was the improvement of public health conditions. This great body of cultured, intelligent and enthusiastic women wields an enormous influence, and is capable of securing far-reaching reforms. It has always stood squarely for sanitary progress. At the tenth biennial meeting, held in Cincinnati in 1910, resolutions endorsing the Owen bill were adopted, since which time the General Federation of Women's Clubs has been one of the strongest and most influential advocates of this measure. At the San Francisco meeting the endorsement of a national department of health was reffirmed. Several other important resolutions on health matters were also adopted. The following resolutions were adopted at the San Francisco meeting:

Whereas, The General Federation of Women's Clubs, through the health department, has done an excellent work in educating the women of America to the great need concerning human life; be it therefore

Resolved, That we reaffirm our previous declaration advocating the union and strengthening of the various governmental agencies relating to pure food, quarantine, vital statistics and human health. Thus united and administered, without partiality to or discrimination against any school of medicine or system of healing, they would constitute a single health service not subordinated to any commercial or financial interests, but devoted exclusively to the conservation of human life and efficiency; and be it further

Resolved, That this health service should cooperate with the health agencies of our various states and cities, without interference with their prerogatives or with the freedom of individuals to employ such medical or hygienic aid as they may see fit.

Whereas, Accurate registration of births and deaths is the essential basis for intelligent efforts to conserve infant life, to secure the education of all children and to protect their working life and legal rights; therefore be it

Resolved, That the General Federation of Women's Clubs requests the Children's Bureau to prepare in brief form for popular distribution such material as may be available concerning the present degree of registration of births and deaths in this country and the best methods of securing complete returns.

Whereas, England, Germany, France, Sweden and nearly all the enlightened nations of the world have proved that medical inspection of schools for the avoidance of contagion and the correction of physical defects; that outdoor schools for the physically weak, and that the employment of competent school nurses have proved useful in lessening truancy, decreasing absence from sickness and alleviating suffering; therefore be it

Resolved, That we recommend to the Federated Clubs the necessity for carrying forward such plans as shall relieve physical defects and educate the young for stronger bodies and more wholesome living.

Whereas, Innocent women and children of our land are the greatest sufferers from venereal diseases in the marriage relation; be it therefore

Resolved, That the General Federation of Women's Clubs puts itself on record as believing in properly endorsed certificates of health or of freedom from venereal disease, for all applicants for marriage licenses; and be it further

Resolved, That this same body urge the respective states to pass a law similar to that of Indiana, which requires such a certificate.

Adopted.—*Jour. A. M. A.*, Aug. 31, 1912.

PITUITARY EXTRACT IN OBSTETRICS AND GYNECOLOGY*

A. W. LESCOHIER, M.D., and O. E. CLOSSON, Ph.B.
Detroit

The significance of uterine inertia as a complication of labor is so universally recognized that it seems unnecessary that we should more than casually refer to it at this time. Disturbances and discomforts connected with a protracted labor, exhaustion, increased danger of infection and psychic depression of the mother, the possibility of asphyxiation for the child, and finally for the busy physician the considerable amount of time required, are all matters of no little consequence. The natural result of these factors is that a slowly progressing labor is frequently terminated by instrumental procedures in the absence of sufficient indications.

Frankl-Hochwart and Fröhlich,[1] of the Pharmacological Institute of the University of Vienna, have been given the credit for directing attention to the action of pituitary extract on the uterus. As a matter of fact, Dale[2] had previously called attention to this action of the hypophysis. Dale observed a very marked contraction of the uterus in the cat following the intravenous injection of .4 of a gram of dry ox pituitary. That his observation did not attract general attention was undoubtedly due to its having been dealt with in an incidental manner, in the course of a long paper on the "Physiological Action of Ergot." In 1909 Frankl-Hochwart and Fröhlich, in a series of experiments on normal, gravid and lactating rabbits, found that the uterus after small doses of pituitary extract (0.3 to 0.5 c.c.) was subjected to powerful and often long enduring contractions, and that the sympathetic nerve supply became more sensitive to faradic stimulation. The action of the pituitary extract was very much more striking in the case of a gravid uterus, or in the uterus of a lactating animal. Furthermore, it was observed that intravenous injections into dogs of small amounts of hypophysis extract increased the sensitiveness of the bladder nerves and suggested that the extract should prove of clinical value in atonic conditions of the bladder as well as in those of the uterus.

To Bell[3] belongs the credit for having first employed pituitary extract for obstetrical purposes. Experiments conducted by him confirmed the results of Frankl-Hochwart and Fröhlich regarding the action of pituitary extract on the uterine muscle of pregnant rabbits. Bell then employed the hypophysis extract in cases of normal labor, uterine inertia, subinvolution of the uterus and postpartum hemorrhage, with uniformly satisfactory results, and concluded, that "in the future we shall rely on the infundibular extract to produce contractions of the uterus in many serious obstetrical complications and difficulties."

Shortly after the publication of Fröhlich and Frankl-Hochwart's works, Hof-

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

* From the Research Laboratory of Parke, Davis & Co., Detroit.

1. Frankl-Hochwart and Fröhlich: Arch. Pathol. and Pharmakol., 1910, Bd. 63, p. 347.

2. Dale: Jour. Physiol., May, 1907.

3. Bell, W. B.: Brit. Med. Jour., Dec. 4, 1909, p. 1609.

bauer[4] employed the pituitary extract in the treatment of six cases of uterine insufficiency. The results obtained were very striking, marked contraction of the uterine muscle being produced, which was regular and rhythmical in character. Later work confirmed this earlier observation. In the following classes of cases, the administration of infundibular extract was followed by prompt and satisfactory results:

1. Primary and secondary labor pains.
2. Slightly contracted pelvis.
3. Cases where it is desired to accelerate labor in febrile conditions and threatened eclampsia.
4. Placenta prævia lateralis after rupture of the membranes.
5. Breech presentations.
6. Indications for rapid completion of labor.

Infundibular extract also had an apparently good effect in atonic conditions of the uterus, checking postpartum bleeding. Pituitary extract alone did not produce an abortion, but used in conjunction with instrumental procedures it hastened the evacuation. He believes it, therefore, to be of value in the puerperal period. No undesirable effects in either mother or child were observed.

Studeny[5] used pituitary extract in eighty-nine labor cases. In the first stage of labor the effect was very marked and in the expulsion period, the extract was given with excellent results in thirty-four cases. In fifteen the birth followed during the first quarter of an hour after the injection, and in thirteen during the next hour, and six during the next two hours. On the other hand the extract failed in some cases of abnormal resistance of the soft parts or bony pelvis, and also failed in eight cases of primary uterine inertia. Pituitary extract was further given in five cases of rigidity of the soft parts in two of which it had little if any effect. The results were strikingly good in six out of nine cases of placenta prævia, but in two cases the pains stopped after a short time, and in a third the pituitary extract had no apparent effect. In one case of induction of labor infundibular extract was used in combination with operative measures and a definite opinion as to its value could not be formed. In the whole series of cases in which labor ended spontaneously, there were only two of postpartum hemorrhage.

In the three cases in which Stern[6] employed pituitary extract, labor was induced because of complicating pathologic conditions (tuberculosis, eclampsia, etc.). In all cases the extract was effective in producing satisfactory contractions of the uterus.

Bondy,[7] at the Pharmacological Department of the University of Breslau, employed hypophysis extract in ten cases of protracted labor. In eight of these the results were entirely satisfactory, while one was partially successful and the other a failure. The one failure recorded was a case of an elderly primipara with a breech presentation. The labor lasted fifty-six hours, and after fifty-four hours, the pains having almost ceased, 1 c.c. of pituitary extract was given subcutaneously.

Voight,[8] in the University Obstetrical Clinic in Berlin, employed infundibular extract in seventy-five cases. In sixty of these (80 per cent.) the results were very good, while in eleven the pains produced were only weak or temporary, and in four the administration of the extract appeared to be detrimental to the course of labor. Among these sixty cases all stages of first

4. Hofbauer: München. med. Wchnschr., March 19, 1912, lix, No. 12.
5. Studeny, Alfred: Wien. klin. Wchnschr., Dec. 21, 1911, Jahrgang 24, No. 51, p. 1766.
6. Stern, Robert: Berl. klin. Wchnschr., Aug. 7, 1911, No. 32, p. 1459.
7. Bondy, Oscar: Berl. klin. Wchnschr., Aug. 7, 1911, No. 32.
8. Voight: Deutsch. med. Wchnschr., Dec. 7, 1911, Jahrgang 37, No. 49, p. 2286.

and second periods of labor were encountered. The partial failure of the extract in eleven cases was thought to be largely due to the use of too small doses in the earlier cases.

Hahl[9] employed hypophysis extract in the Obstetrical Clinic at the University of Helsingfors. The drug was administered subcutaneously to thirty-four patients, and the course of labor in each case before and after injection carefully recorded. Twice cesarean section was performed with the aid of pituitary extract, which, in one case, was injected directly into the wall of the uterus. In twenty-two cases the drug increased the pains and hastened labor to a marked degree, in six others it had a similar though a somewhat less powerful action, and in two it had no effect whatever. The characteristic action of the pituitrin was a shortening and strengthening of the pains, shortening of the interval between contractions and marked increase of intra-uterine pressure.

Hamm,[10] at a meeting of the Unterelsassischer Aertzverein, Strasburg, reported concerning the use of pituitary extract in twenty-five cases, some of which were primary and some secondary uterine inertia. In only one case did it fail entirely, in the remaining twenty-four it was successful. The drug was found to be a valuable adjunct in cesarean section and in miscarriages, but valueless in the production of premature birth.

Richter,[11] in the Obstetrical Clinic of the University of Vienna, used hypophysis extract in the dilatation period in eighteen primiparæ and eleven multiparæ. In sixteen of the eighteen primiparæ, the cervical canal was obliterated and the os uteri large enough for three or four fingers, while in two cases the patients were still at the beginning of the dilatation period. The effect of the pituitary extract appeared within five to ten minutes, during which time powerful labor pains set in with regular intervals. The birth followed according to the strength of the pains and the condition of the soft parts, in from two to six hours after the injection. In no case was any injury to the child observed, and no disturbance occurred during the third stage of labor. Only one case was observed of tetanic-like contraction of the uterus. This lasted ten minutes, whereon the intervals became longer and a regular activity of the labor pains set in.

In the multiparæ, the extract was injected in six cases at the end of the dilatation period, because of marked weakness of the labor pains, in all cases with good results. In the expulsion period, the hypophysis extract was used in sixteen cases, nine of which were primiparæ and seven multiparæ. In all cases the effect appeared after five to ten minutes. In multiparæ the birth occurred in all cases within a half hour.

The hypophysis extract was also used in three cases in which it was necessary to introduce artificial abortion because of advanced pulmonary tuberculosis, and twice in cases in which abortion had already begun. In no case could abortion be produced with the extract, even when repeated injections were given. In postpartum hemorrhages and hemorrhages in childbirth, pituitary extract was used with good results.

Hirsch,[12] from the School for Midwives at Strassburg, employed infundibular extract in three cases preceding cesarean section, in thirteen cases of premature birth, and in nineteen cases to stimulate labor pains. It was found that the action of

9. Hahl, C.: Brit. Med. Jour., Dec. 16, 1911, p. 91.

10. Hamm: Deutsch. med. Wchnschr., March 7, 1912, xxxviii, No. 10, p. 487.

11. Richter, I.: Wien. klin. Wchnschr., 1912, No. 13, p. 480.

12. Hirsch, E.: München. med. Wchnschr., April 30, 1912, Jahrgang 59, No. 18, p. 984.

pituitary extract was greater the closer it was administered to the expulsion period. In the great majority of cases, unless there was momentary danger to either the mother or child, it was possible to entirely avoid the use of forceps. It was impossible to produce any labor pains in a uterus which was in a state of repose, even at the reckoned end of pregnancy and when repeated injections of the extract were administered. In such cases, however, it was possible to arouse the activity by mechanical means and to bring about the delivery much more rapidly by strengthening the contractions with the extract.

In a recent communication, Benthin[13] reported favorably on the use of hypophysis extract as a labor exciting means and stated that it is an important safe differential diagnostic point between true and false labor pains. If the pains present are true labor pains, the administration of the pituitary extract will greatly strengthen the contractions, whereas in false pains no effect is produced.

In September, 1911, Hofstatter[14] stated that by the administration of pituitary extract, postpartum and postoperative atony of the bladder can be successfully treated and the necessity for catheterization avoided. In this connection it will be recalled that Frankl-Hochwart and Fröhlich had already shown by animal experiments that pituitary extract stimulates the muscle tissue of the bladder and increases the faradic irritability of the bladder nerves. Hofstatter found that in cases of atony of the bladder, the injection of hypophysis extract was almost always followed by spontaneous urination. He next injected 1 to 2 c.c. of the extract in all postoperative cases in which the patient suffered from inability to urinate, the bladder being full. In more than three-quarters of the cases, the patients became able to pass urine. The difficulty in urination did not return when it had been overcome as a result of pituitary extract. The treatment was not successful in cases of severe injury of the bladder.

Fellenberg[15] confirmed Hofstatter's work and found that "the action on the bladder was exquisite and the injection of the extract in postpuerperal urinary retention was followed by a prompt emptying of the bladder."

Numerous other reports have appeared in the literature regarding the use of pituitary extract in obstetrical practice, among which may be mentioned those of Nagy,[16] Gusew,[17] Besserer,[18] Jaeger,[19] Parisot and Spire,[20] Fries,[21] Vogt,[22] Schaefer,[23] Schirmer[24] and Hager.[25] Other publications in the Hungarian, Danish and Spanish literature we have not been able to secure.

Our clinical experience with the pituitary extract has been by no means extensive, but through the cooperation of a few practitioners in Detroit, we have been able to try out the extract in a number of cases. Our results conform with those already reported, indicating that the hypophysis extract is a very valuable agent in the treatment of uterine inertia and that administered in the first and second stages of labor, it greatly strengthens the uterine contractions. According to our

13. Benthin, W.: Deutsch. med. Wchnschr., April 25, 1912, xxxviii, No. 17, p. 823; München. med. Wchnschr., Jahrgang 59, No. 18, p. 994.

14. Hofstatter, R.: Wien. klin. Wchnschr., 1911, No. 49.

15. v. Fellenberg, R.: Wien. klin. Wchnschr., March 7, 1912, xxv, No. 10, p. 390; Korrespondenzblatt f. Schwiezer Artze, 1911, Jahrgang 41, No. 35.

16. Nagy, T.: Centralbl. f. Gynäkol., 1912, No. 10.

17. Gusew: Russk. Wratsch., No. 52.

18. Besserer: Medizinische Klinik, April 16, 1912, Jahrgang 8, No. 16, p. 670.

19. Jaeger: München. med. Wchnschr., No. 6.

20. Parisot, J., and Spire, A.: Med. Rec., April 7, 1912, p. 671.

21. Fries: München. med. Wchnschr., 1911, lviii, 2438.

22. Vogt: München. med. Wchnschr., 1911, lviii, 2734.

23. Schaefer: München. med. Wchnschr., 1912, lix, 75.

24. Schirmer, Gustav: Med. Fortnightly, March 25, 1912.

25. Hager: Berl. klin. Wchnschr., April 15, 1912, No. 16, p. 762.

observations, the contractions are rhythmical in character and in none of our cases was a tetanic contraction of the uterus produced.

We wish to include the two following case reports as typical examples of the class of cases in which the pituitary extract is indicated. That we have the privilege of reporting these cases is due to the courtesy of Dr. E. J. O'Brien of Detroit, in whose practice they occurred:

Case 1.—Mrs. F. Patient first came under observation May 18, 1912. Gave a history of membranes having ruptured three days previously, and having had pains at irregular intervals since. Examination showed cervix to be dilated sufficiently to admit three fingers and L. O. A. presentation was diagnosed. Fetal heart sounds were readily distinguishable. At the time the patient came under my attention the pains were very weak and labor was at a standstill. A second examination the following morning showed no change in the patient's condition and at noon she was sent to Grace Hospital. During the morning the patient had no pains whatever. At 12 o'clock a subcutaneous injection of 1 c.c of pituitrin was given. Between 12 and 12:30 the patient had eight very severe pains with some progress in labor, but after the first half hour the pains became less marked. A second injection of 1 c.c. was given at 4:00 p. m., and shortly after its administration strong contractions set in. Between 4 and 5 p. m., when the child was born, twelve strong pains occurred. The delivery, both of the child and the placenta, was accomplished without any difficulty. The uterus contracted firmly and there was practically no post-partum bleeding. No untoward effects of any kind in either the mother or the child were observed, the patient leaving the hospital two weeks later.

Case 2.—Mrs. C. Called to see the patient at 8 a. m. Patient was a multipara, both previous children having been born at 7 months. The one child who survived was undersized. Patient gave history of having menstruated during entire pregnancy, and did not know exactly how far pregnancy had progressed. She had had intermittent pains for several days. Examination showed cervix to be sufficiently dilated to admit three fingers. Membranes were not ruptured, but patient was passing considerable blood. L. O. A. presentation was diagnosed. At 3 o'clock in the afternoon no progress in labor had been accomplished. Pains were becoming feeble and the patient was very tired. One c.c. of pituitrin was administered subcutaneously into the left arm. A very few minutes after the injection the pains became exceedingly severe, patient complained bitterly and stated that pains were almost continual. Progress began within a few minutes after the administration of the pituitrin. The child was born thirty minutes after the injection, full term and perfectly normal. Placenta was removed without difficulty, and no post-partum hemorrhage occurred. Uterus contracted firmly and remained so.

Our laboratory experiments have been directed toward the determination of the following facts:

1. The character of the contractions induced by the administration of the pituitary extract.

2. The possibility of inducing abortion by the administration of large doses.

3. The toxicity of pituitary extract.

4. The significance of the glycosuria following the administration of large doses of hypophysis extract in animal experiments which has been reported by Cushing and others.

In studying the character of the uterine contraction produced by the infundibular extract, we have used normal, lactating and pregnant dogs. The dogs were anesthetized with chloretone and attached to the kymograph in usual way, blood-pressure record being taken as well as that of the uterine contractions. The longitudinal contractions were recorded by the use of myocardiograph, the needles of the myocardiograph being attached to one horn of the uterus. The volume changes were recorded by enclosing in the opposite horn a small rubber sack which connected by glass and rubber tubing to a tambour from which the changes were recorded on the drum of kymograph.

Figure 1 shows a tracing from the normal uterus. In this case only the longitudinal contractions were recorded. *A-A'* is the uterine tracing, *B-B'* the blood-pressure and *C-C'* time marker. It will be observed that while the pituitary extract increased the activity of the uterine mus-

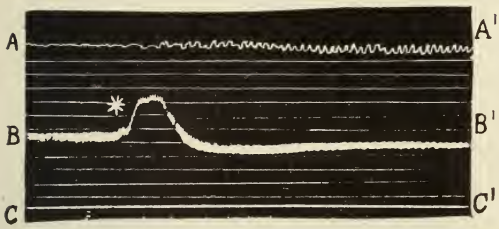


Fig. 1.—*Intravenous injection 0.5 c.c. pituitrin.

cle, the contractions were not especially marked. A slight increase in the uterine tone is observed.

With lactating animals the effects were very much more marked, decided stimulation of uterine contractions and increase in uterine tone being observed. The susceptibility of the uterus to pituitrin stimulation decreased as the period of lactation advanced.

With dogs placed on the table a few hours after the delivery of their puppies the uterine sensitiveness to pituitrin stimulation is very decided. Figure 2 shows a tracing taken in the morning from a bitch which had dropped her puppies some time during the night. In this case both longitudinal contractions and volume changes were recorded. *A-A'* shows longitudinal contractions, *B-B'* volume changes, *C-C'* blood-pressure and *D-D'* time marker. The down stoke on the upper tracing indicates the longitudinal contraction, while the up stroke on the second curve shows decrease in volume. Tracings were taken immediately after the injection, twenty minutes later and an hour later. The curve shown in Figure 2 was the tracing taken an hour after injection. The normal curve (i. e., the tracing taken previous to the injection) showed almost a straight line. In less than a minute after the injection contractions set in, which were rather "stormy" in character. Within a few minutes, however, they became rhythmical and remained so throughout the experiment as shown by the above tracing. At the time the dog was killed (two hours after the injection) contractions were still regular and forcible.

The results of our experiments point to the fact that as pregnancy advances, there is a progressively increasing susceptibility of the uterus to pituitary stimulation. In other words, the closer the animal is to term, the more marked are the contractions produced by the administration of the extract. The experiment represented in Figures 3, 4, 5 and 6 is interesting in this connection.

These tracings were taken from a dog in whom the onset of labor seemed imminent. In all four *A-A'* represents tracing

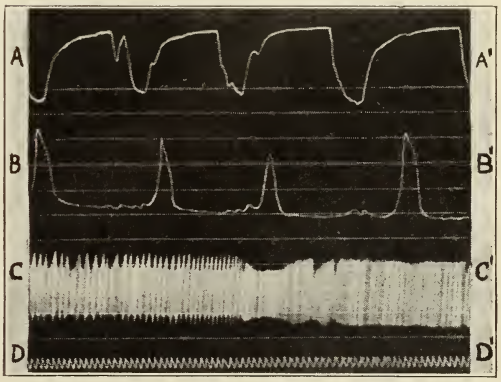


Figure 2

from uterus, *B-B'* the blood-pressure and *C-C'* time marker. Blood clotted in the cannula during the experiment so that it was impossible to get a picture of the blood-pressure in the last two tracings.

It is observed that there is a considerable oscillation in the uterine tracing previous to injection. This was not, as it

might appear, due to activity of the uterus, but simply a result of the respiratory movements. The contraction following the injection was very striking and the relaxation from this primary contraction delayed.

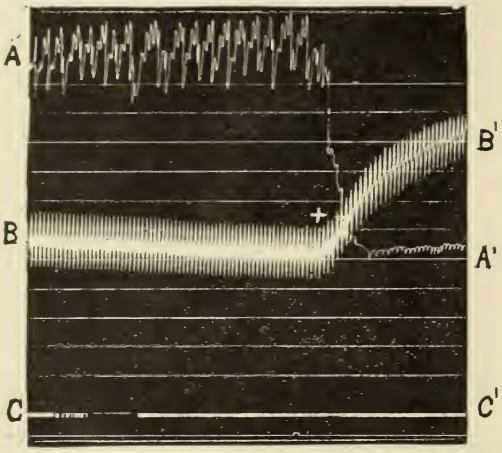


Fig. 3.—*Intravenous injection of 0.5 c.c. pituitrin.

Figure 4 shows the relaxation from the first contraction and the initiation of the characteristic rhythmic "pains."

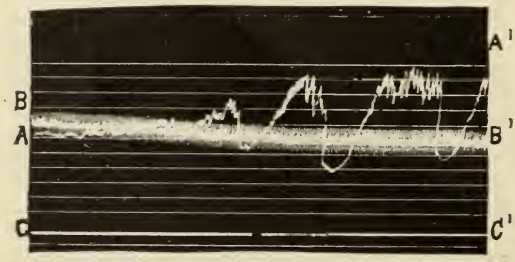


Figure 4

Figure 5 shows the contractions thirty minutes, and Figure 6 one and one-half hours after the injection.

In all of these tracings the down stroke is the contraction, and the up stroke the relaxation. It will be observed that the contraction is very sharp and the interval between relatively short. The similarity between the contractions produced by the pituitrin and normal labor pains is so striking that the decisive action of the drug in obstetrical practice is readily explained.

In all of the above experiments the dose of pituitrin administered was 0.5 c.c. intravenously.

Judging from experiments on dogs the toxicity of pituitrin in therapeutic doses can be practically ignored. We have repeatedly given to dogs doses equivalent, according to weight, to 100 c.c. to a human subject, with the production of no untoward effects other than a slight temporary glycosuria. In one instance a bitch, weighing 5 kilograms, was given 25

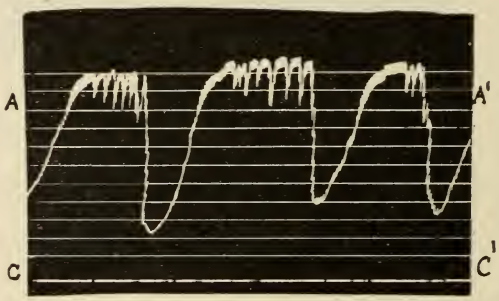


Figure 5

c.c. subcutaneously. This animal was selected from a group of twenty or twenty-five dogs as being the weakest animal of the lot. The dose given (5 c.c. per kilo) is approximately equivalent to 250 c.c. in a human subject weighing 110 pounds.

Figure 6

The animal manifested considerable uneasiness during the afternoon following the injection and some urinary and fecal activity. The nervous symptoms are probably to be ascribed to the increase in blood-pressure as we have observed the same condition following large doses of adrenalin, while the urinary and fecal activity are to be explained by the action

of the extract on the muscular tissue of the bladder and alimentary canal. A mild glycosuria was produced which persisted for about three weeks. The dog's condition after the first day or two was approximately normal and no permanent injurious effects were observed. We still have the dog and she is apparently in the best of health.

Regarding the possibility of inducing labor, we have given doses as high as 1 c.c. per kilo to pregnant animals near term without effect.

In studying the glycosuria we have used a metabolism cage constructed so that the entire twenty-four-hours' urine could be easily collected.

An interesting fact which we have observed and which we do not recall having seen reported is the delay in the appearance of the glycosuria. Often it does not become manifest for several days, and following enormous doses of pituitary extract it may persist for two or three weeks. It invariably clears up within a few weeks. The amount of pituitary extract which is required to cause glycosuria is relatively large and our experiments would indicate that it would never be produced by therapeutic doses. The following tables showing some of the above facts may be of interest in this connection:

TABLE 1.—DOG 1; WEIGHT 19.5 KG.

Injection	Day	Vol.	S. G.	Sugar
19.5 c.c. pit.	1	400 c.c.	1035	—
19.5 c.c. pit.	2	450 c.c.	1035	—
	3	940 c.c.	1015	—
19.5 c.c. pit.	5	...	....	..
10.0 c.c. pit.	6	410 c.c.	1036	+
	7	1000 c.c.	1010	++
	8	810 c.c.	1024	++
	9	600 c.c.	1025	++
	10	290 c.c.	1020	++
	12	Died (distemper).		+

TABLE 2.—DOG 2; WEIGHT 5 KG. (A)

Injection	Day	Sugar	Diatetic Acid
25 c.c. pit	1	Trace*	..
	2	Trace	..
	3	Trace	..
	5	+	+
	6	+	—
	7	+	—
	8	+	..
	9	+	..
	10	+	..

* Twenty-five minutes after injection.

TABLE 3.—DOG 2; WEIGHT 5 KG. (B)

Day	S. G.	Sugar
13	1016	Trace
14	1013	Trace
15	1020	Trace
16	1020	Trace
17	1024	Trace
18	1017	Trace
19	1020	Trace
29	?	—

TABLE 4.—DOG 3; WEIGHT 15.5 KG.

Injection	Day	Vol.	S. G.	Sugar
31 c.c. pit.	1	...	....	..
	2	...	1032	—
	5	500 c.c.	1045	—
	6	410 c.c.	1038	Trace
	8	745 c.c.	1026	+ (1.5%)
	9	525 c.c.	1016	+ (1%)
	10	700 c.c.	1012	Trace
	11	790 c.c.	1013	Trace
	12	680 c.c.	1014	?
	13	...	....	—

TABLE 5.—DOG 4; WEIGHT 14 KG. (Pregnant)

Injection	Day	Vol.	S. G.	Sugar
14 c.c. pit.*	1	340 c.c.	1025	—
	2	510 c.c.	1032	+
	3	530 c.c.	1019	Trace
	4	225 c.c.	1035	Trace
	5	500 c.c.	1024	—
	7	Seven puppies.		

* Four injections, 3.5 c.c., three hours apart.

TABLE 6.—DOG 5; WEIGHT 10.5 KG. (Pregnant)

Injection	Day	Vol.	S. G.	Sugar
5 c.c. pit.	1	...	1028	—
	2	245 c.c.	1032	—
	3	260 c.c.	1022	?
	4	280 c.c.	1035	—
	5	130 c.c.	1038	Trace
	8	...	....	—
	12	Five puppies, all normal.		

From these results we feel justified in concluding that experimental glycosuria which may be produced with pituitary extract is not of any significance as far as the safety of the product is concerned.

We have observed and the observation has been reported by others, that the administration of the extract produces a temporary decrease in the normal flow of the pancreatic juice which is followed by a short increase and then a continued decrease in pancreatic activity. Pituitrin also inhibits the stimulant action of secretin on the activity of the pancreas. Whether or not this action on the pancreas has anything to do with the apparent effect of disturbed sugar metabolism, we are of course unable to state, but we hope that some light may be thrown on it by future experiments.

INDICATIONS FOR ENUCLEATION*

CALVIN R. ELWOOD, M.D.
Menominee, Mich.

At a recent meeting of the American Medical Association, one prominent member of the Section of Ophthalmology stated that he believed many cases of sympathetic ophthalmia were due to infection and injudicious treatment, and that the time would come when the disease would be practically unknown, notwithstanding he advised extreme conservatism in the matter of enucleation, while another of greater experience stated that he advised immediate enucleation of all shattered, sightless eyes. This diversity of opinion among leading ophthalmologists is my excuse for presenting this paper on a subject which has been so often discussed that nothing new remains.

Not long ago I had the misfortune to be unsuccessful in attempting to remove a piece of steel, probably non-magnetic, from an eye with the giant magnet, and took the patient to a consultant of wide experience, who had no better success. I then suggested immediate enucleation at the first sign of inflammatory reaction, but my consultant assured me that would probably not be necessary. In spite of his optimism, however, the eye was enucleated the following week.

These facts are mentioned to demonstrate the great diversity of opinion that prevails concerning the indications for enucleation, and to emphasize the importance of thorough and oft repeated discussion, for the surgeon is seldom called on to decide a question in which prompt and accurate judgment is more essential.

While all agree that the unnecessary sacrifice of an eye is a catastrophe from which we must be ever on the alert to protect our patients, the surgeon must be equally appreciative of the danger involved in too great conservatism, and the fact that when sympathetic ophthalmia has once developed, comparatively little can be done to check its progress. Therefore, until more is known of the pathology of the disease and some efficient treatment discovered, we must be ever watchful and guard against its development in suspicious cases by the only known efficient prophylaxis — the prompt enucleation of the possibly exciting eye, provided it is blind.

If the ciliary body is seriously injured and the sight nearly destroyed, I shall always enucleate in the future if permitted. With such an eye one cannot tell when sympathetic ophthalmia may develop; besides its subsequent shrinking makes it more unsightly than a well-fitted Snellen, to say nothing of the great risk involved in its retention.

It has been my misfortune to see one patient blinded from sympathetic ophthalmia from such an injury, and have another pass from observation with an atrophic dangerous stump. In the latter case I could have enucleated at the time of injury, had I not erred in my enthusiastic endeavor to preserve an eyeball, although sightless, because of the apparent

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

success in suturing the extensive scleral wound.

Whether the ciliary body is injured extensively or not, an eye totally blind from injury, if at all tender to pressure, with chronic cyclitis and reduced tension, should be removed. The only argument in favor of saving it is the sentimental objection to parting with so conspicuous a portion of one's anatomy, but a well-fitted Snellen after an Allport operation, or one of its modifications, is far preferable from a cosmetic standpoint to the blind, scarred, often chronically inflamed eye.

The possessor himself of such an organ has little appreciation of the discomfort he suffers until after enucleation. Some years ago I removed a blind eye, simply because it was a disfigurement and the other tired somewhat easily. Before leaving the hospital the patient remarked that he had no appreciation of the discomfort he had endured for years. It had been so constant and so gradual in its development that he had established a tolerance, but could now do constant near work with far greater comfort than for years previous. Few now know that he has but one eye, while previous to the operation it was very apparent — a fact of importance to the artisan in these days when the employer is ever on the alert to protect himself against personal injury claims.

The presence in an eye of a foreign body that cannot be removed is in the opinion of many an indication for enucleation, and in this particular I wish to mention the fact that the intelligence and financial condition of the victim of an accident — as well as the availability of skilled attention — should be factors in deciding whether an eye so injured should be removed at once. As a case in point I would mention a homesteader who thawed some dynamite with the usual result. When that dynamite exploded he was filled so full of fragments of tin can that it was impossible to take him to the hospital. A very clean iridectomy had been done by the attending physician, but the presence of a traumatic cataract and a penetrating wound of the cornea and iris, together with the history, indicated that there was a piece of tin in the eye. The patient was given a test card on which the vision was noted, and he was told that if at any time vision in the remaining eye diminished or the eye tired after use, or if any other symptoms of sympathetic ophthalmia developed, which were mentioned, he should come at once to the hospital for enucleation. Notwithstanding this definite and urgent advice, he was led into the hospital some six month afterwards, was led out again, and has even since been blind. His excuse was sickness in his family and that he had been told by friends that it was not necessary to come as quickly as I had advised.

Another distressing case was that of a child four years old whose blindness was clearly chargeable to ignorance and neglect. Two months before I saw him he had suffered an injury which cut the cornea clear across, but did not involve the ciliary body. He was brought to me because the other eye was irritable and somewhat sensitive to light. Enucleation was persistently refused until too late to be of any service. Enucleation was insisted on in this case simply because the injured eye was hopelessly blind, slight photophobia and lachrymation were present in its fellow, and the child lived under conditions which made proper care impossible.

Any patient with so extensive an injury as to be hopelessly blinded, is far more disfigured than he would be after enucleation and subsequent prothesis. Besides, the possessor of such an organ is never free from danger, there being practically

no limit to the time after injury when the other eye may be involved.

As Allport expresses it, the usefulness of an eye is confined to two purposes, viz.: vision and beauty, and when through accident or disease, both these attributes are lost and the element of danger added, the eye should be removed.

The general impression that an eye lost through panophthalmitis, will not excite sympathetic ophthalmia in its fellow, as suggested by the theory of Leber and Deutschmann, that the panophthalmitic inflammation plugs the lymph channels and thereby prevents germ migration, or of Gifford, that the infiltration of pus corpuscles in the optic nerve lymph spaces prevents bacterial invasion of the sound eye, is only partially true. Zentmayer has found records of fifteen cases of sympathetic ophthalmitis following panophthalmitis from a study of which he concludes that while the occurrence is one of extreme rarity, it certainly does occur. It is the mild type of purulent uveitis which may cause trouble, and only after a virulent attack should the shrunken globe be considered safe.

Several factors contribute, according to Zentmayer, to render panophthalmitic eyes innocuous. When the globe perforates after a severe suppurative uveitis, many of the microorganisms are expelled with the pus, and those remaining become inactive through enormous pus formation. This active pyogenesis, by blocking the posterior lymph spaces, serves to prevent the migration of toxic agents.

A study of Dr. Thompson's recent paper on Sympathetic Optic Neuritis and its discussion, must force the conclusion that the only safe treatment of an eye blinded by injury is enucleation. His patient was blinded twenty years before by a blow; never remembered any pain, and never had any treatment. Years after vision in the other eye was reduced to 20/200 without other symptoms. That his case is by no means unique was demonstrated by the cases reported by Hirschberg, Harlan and Shirmer, who tabulated seventeen cases, quoted by Dr. Thompson.

The former objection to enucleating during panophthalmitis, through fear of the development of a septic meningitis or orbital abscess, is not sustained by clinical records, and a successful enucleation at this time saves the patient so much suffering, that it is to be advised unless especially contra-indicated.

The extreme rarity of sympathetic ophthalmia after enucleation (only one in 1,596 enucleations at Moorsfields) would indicate that it is the safest method of disposing of a dangerous eye, while several cases are reported following evisceration. This may be an argument for the ciliary nerve theory of the etiology of "Migratory Ophthalmia," for de Schweinitz and other careful observers have found microscopic remnants of the ciliary body in the interior of eyes they themselves had carefully eviscerated. After an evisceration the stump, while at first larger and better, gradually shrinks until it is but little if any larger than it would be after a proper enucleation.

I plead guilty of having removed an eye a short time ago, in which there was a little vision and which was not the result of an injury, but for which I make no apology. A miner, over 60 years old, had suffered from trachoma in one eye for years, and as the result of a chronic cyclitis, was in misery much of the time. He had consulted several oculists and had been in different hospitals for in the aggregate about four months in the past three years. The eye had recently been very painful. The most I could hope from six or eight weeks of treatment would have been an eye

with only poor form perception, which on slight provocation would go through the same process as in the past, but after enucleation he has been comfortable, went home in a few days and has the satisfaction of knowing that he will not have a recurrence of his former discomfort.

It must be understood in these distressing cases of severe injury that enucleation may not be absolute prevention against involvement of the fellow, Stephenson having reported a case occurring fifty-three days after injury and twenty days after the removal of the exciter, still as the extensive Moorsfields reports show, enucleation is a very reliable, and surely our best, protection against the most deplorable of ophthalmic complications.

SURGICAL SUGGESTIONS

American Journal of Surgery

It is extremely desirable to conduct a systematic and cleanly dissection when seeking a foreign body.

A history of discomfort and oppression in the chest and throat after eating, relieved by induced vomiting, suggests cardiospasm.

After a transpleural intrathoracic operation, as on the esophagus or lung, air-tight drainage of the pleural cavity must be provided for.

A felon may frequently be aborted by covering the end of the finger with cotton saturated in alcohol and protected from the air by a rubber finger cot.

The ophthalmoscope, the sigmoidoscope and, of course, the cystoscope belong to the equipment of every thorough surgeon, and their frequent use is an important part of the diagnostic examinations.

When preparing the radial artery for transfusion it is very important to gently dissect out and tie with very fine ligatures the branches of the vessel in the field. If any of these is torn or bruised, a clot will form in it which, by extending into the radial, will interfere with or prevent the flow of blood.

In the removal of small foreign bodies there is a rule to make the incision at an angle to the long axis of the object, and when the latter is quite superficial this hoary advice is good. But when the object is buried more deeply, the incision should be made parallel to the underlying muscle fibers.

Skin sutures must not be closely placed in fat subjects. Provision should be made for the escape of fat droplets.

Paronychiae may often be thoroughly drained by gently passing the knife point between the nail fold and the lunula without cutting the true skin. Disinfect with a drop of tincture of iodin, insert a tiny gauze drain and apply a small wet dressing.

If suppuration at the root of the nail does not soon subside after providing drainage, it may be necessary to remove the nail. This should not be done too hastily, however. Persistence in daily disinfection of the space (iodin, hydrogen peroxide, etc.) and stimulation of the tissues (as by massage) will often be rewarded by saving the nail.

The history of a fairly sudden enlargement of a testicle does not necessarily mean an inflammatory or traumatic process. Such an enlargement may be due to spontaneous hemorrhage in a round-cell sarcoma of the organ.

Translucency in a scrotal swelling indicates, of course, the presence of hydrocele fluid. But if the shadow of the testicle within is unduly large the hydrocele is only a complication of some other condition, e. g., neoplasm of the testis.

A testicular enlargement, even though of rapid development, not associated with evident urethritis, not very tender and not following instrumentation, should never be dismissed as due to "a strain." It is in all probability neoplastic, luetic or tuberculous. If the Wassermann reaction is negative, the testicle should be promptly examined by operation!

VACCINE THERAPY IN DISEASES OF THE EYE, EAR, NOSE AND THROAT*

D. B. CORNELL, M.D.
Saginaw, Mich.

Vaccine and serum therapy marks an era in the progress of scientific medicine. The careful investigations into the functions of the blood and the part played by each constituent of that fluid, in combating disease, has suggested many methods of aiding nature in overcoming infection. Since the dawn of history, it has been known that in many communicable diseases, one attack renders the individual immune to subsequent attacks.

Nature employs several methods in the immunizing process. Metchnikoff found that the phagocytes have power to ingest and digest and thus destroy pathogenic germs. This power is very slight, however, unless the phagocytes are suspended in blood-serum. It has been found, also, that the action of the phagocytes is much greater when suspended in blood taken from an immunized animal than from one not so immunized. This however is true only for the same kind of germs that the animal was immunized with. These facts suggested to Sir A. E. Wright that the blood-serum contains a substance which varies in individuals and also in different diseases. This substance he called "opsonins." He further developed a process of ascertaining the "opsonic index" in any case. In general terms it may be stated that an individual who has an opsonic index above the normal and whose phagocytes are likewise above normal is able to combat an infectious disease more successfully than if the reverse were true.

Nature's method of overcoming an infection is by the production of certain substances in the blood-serum called bactericidal substances, that destroy the products of the bacteria. There is also formed in the blood certain antitoxins, which combine with and neutralize the toxins.

Further, the opsonins in the blood affect the bacteria so that the phagocytes readily ingest and destroy them. If we are to aid Nature in her work in overcoming an infection we must improve the power of the blood to more readily destroy the infecting bacteria and their products. This can be done by using bacterial vaccines or a prepared serum from an immunized animal. By using vaccines we stimulate the blood to manufacture an extraordinary supply of antibodies, etc., and thus enable the patient to resist the disease, while by using serums the antibodies, etc., are supplied to the patient.

Wright's investigations, which have been confirmed by numerous others, led him to the following conclusions:

1. In case of an infection, Nature increases the opsonic power of the blood and also materially increases the number of the phagocytes.

2. When sterilized pathogenic bacteria in sufficient numbers are injected under the skin, the blood is further stimulated, resulting in more opsonins and an increased phagocytosis.

3. The good effect of a single dose of vaccine lasts from 5 to 10 days, and if the inoculations are repeated a sufficient number of times, at

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

proper intervals, the individual becomes permanently immune.

The United States Government has taken advantage of these facts and now requires all her soldiers to be immunized to typhoid fever. This disease has heretofore been one of the most serious to be contended with in camp life. The result is clearly shown by comparing the results in the army encamped in Florida at Jacksonville in 1898, with the results at San Antonio, Texas, in 1911.

There were approximately the same number of troops, about 12,000, for the same length of time, about four months, at Jacksonville in 1898, and at San Antonio in 1911.

In Jacksonville there were 1,729 certain cases of typhoid and 2,693 more probable cases, with 248 deaths, whereas at San Antonio there were only two cases with no deaths. The soldiers at San Antonio had been rendered immune by three injections each of antityphoid vaccine.

Dr. W. H. Watters, of Boston, reports the result among nurses in the Haynes Memorial Hospital for Contagious Diseases. Referring to the Scarlet Fever Department, he says:

"In short, during 2 years, but one case, and that a very light one, has occurred among a number of nurses, who have received vaccines while among a considerably smaller group, five times as many cases have occurred and those not particularly light."

He describes the method of vaccination as follows:

"About two or three weeks before a given nurse was going to the scarlet fever wards, usually while on diphtheria duty, she was given fifty million of the polyvalent streptococcus vaccine. This was usually followed by some local reaction, soreness of the arm, and occasionally by some general manifestations, such as headache or malaise. In about a week, one hundred millions were given, and a week later, two hundred millions."

A large percentage of the diseases of the eye, ear, nose and throat are of an infectious nature and outside of the syphilitic the germs usually encountered are the various strains of the streptococcus, staphylococcus, pneumococcus and *Micrococcus catarrhalis*. The many sinuses of the nose and ear, and the respiratory function of the nose and throat render these organs peculiarly susceptible to infection.

When an infection is not speedily overcome, the process is liable to continue until surgical interference is demanded. We all know the small percentage of mastoid, antrum, ethmoidal and sphenoidal cases, even if seen early, which are cured without a surgical operation. Any method of treatment that will increase the cures should be regarded with satisfaction.

I shall now give a few illustrative cases treated with bacterial vaccines. In all cases the usual methods of treatment were also given. Where pus was found the parts were kept clean and antiseptic applied. In rheumatic iritis atropine was used, etc., and special symptoms were given attention as they arose.

Case 1.—R. G., aged 20. rheumatic iritis. This patient continued at his work, which is driving mail wagon from P. O. to train; the attack occurred during cold weather. He refused to quit work. I prescribed the usual remedies both locally and constitutionally. The disease remained about stationary—sometimes apparently a little improved, then the reverse. After several weeks the patient was exposed to a severe snow storm and the eye became much more painful. At this juncture I gave him the first dose of vaccine without much expectation of success. Within 48 hours, the pain subsided and the eye was decidedly improved; four days later another injection was given and the patient made a rapid recovery without losing a day from his occupation.

Case 2.—Mrs. E., aged 72. Rheumatic iritis, corneal ulcer and severe blepharospasm. Had been treated for many weeks without amelioration of symptoms. She had been afflicted with rheumatism for many years. Her finger joints

were enlarged from this disease. Cocain, novocain, acoin, dionin and other medication would give but temporary relief. The first dose of vaccine gave some improvement and in ten days she became fairly comfortable. The injections were repeated every 5 days for several weeks. Not only were all her symptoms relieved, but the condition of the rheumatic joints was vastly improved.

Case 3.—D. T., aged 45. Rheumatic iritis. This patient had previously had similar attacks and had been treated by other oculists. It usually required several weeks to overcome an attack. In 1909 he had an attack with the usual course. In 1911 the same conditions prevailed but all symptoms were aborted by one vaccine injection.

In many other cases which I have treated during the last two years, the relief from all painful symptoms within twenty-four hours, where rheumatism was a factor, was little short of marvelous.

Case 4.—Mrs. B. This patient has been afflicted with frequent attacks of suppurative tonsillitis for many years requiring an incision to evacuate the pus. During the last 2 years whenever symptoms arose, suggesting a return of the disease she has taken a vaccine injection and has escaped the tortures of a developed case.

Case 5.—H. H., aged 12. This patient was taken with earache following recreation in the manual training swimming pool.

After both ears were suppurating, I was called in consultation with the family physician. At the time the temperature was 103° with much pain in the left ear. The tissues behind the ear were edematous and there was no doubt but that the mastoid was involved. An injection of vaccine was given and within 48 hours the temperature was normal and the pain had subsided, although the swelling behind the ear increased somewhat. Five days after the first injection a second was given. The swelling behind the ear gradually subsided, and the discharge ceased, the patient making a complete recovery without an operation.

Case 6.—The writer had ethmoidal trouble for several years. Portions of the middle turbinates were removed to give better drainage. Every time a cold was contracted there was a copious muco-purulent discharge lasting several weeks.

For the last two years when there is any symptom of a return of the disease a vaccine injection is taken and repeated in 3 days. Since adopting this method I have seen no clinical indication of a purulent discharge.

When I first began using the vaccine treatment I applied it in cases which did not improve as rapidly as desired. The general result was so satisfactory that I now use it in all cases where there is a probable infection of any germs already specified.

The question often arises whether an autogenous or a stock vaccine gives the better results. My practice is to use a mixed polyvalent stock vaccine and use it early. Only in those cases which do not respond readily do I have the discharge examined under a microscope. I have adopted this plan for the following reasons:

1. In nearly all infections, in diseases of the ear, eye, nose and throat, outside gonorrheal and syphilitic, the germ or germs are included in the various strains of the streptococcus, staphylococcus, pneumococcus and *Micrococcus catarrhalis.*

2. There is absolutely no danger in giving vaccine in local infections.

3. Valuable time is lost if you wait for the manufacture of an autogenous vaccine.

4. No harm results from injecting a vaccine of germs which do not exist in the patient treated.

As to the relative merits of autogenous and stock vaccines, Dr. John Osborn Polak, Professor of Obstetrics and Gynecology in Long Island College Hospital, after three years' use in all infections in his department, says:

"Autogenous vaccines of a single strain have given us unreliable reactions. This, I think, can be explained by the fact that the coccus is attenuated in its strength, and after it has produced its first reaction, the leukocytes become more or less accustomed to the particular variety of coccus, and are less liable to effect

a defense than when a vaccine of polyvalent strain is introduced.

"The mixed vaccines of reliable laboratories have given better results than when a single variety was used. This has been shown repeatedly in the blood picture when an autogenous vaccine of single strain used in large doses, even up to 500,000,000 has failed to increase the leukocyte count or diminish the polynuclear percentage, the mixed vaccines of several strains have promptly produced a marked leukocytosis. Even the colon bacillus infections, such as the infection of pelvic hematocele by the colon bacillus, have yielded more promptly to mixed vaccines of polyvalent strains than when a single autogenous one has been used."

CONCLUSIONS

In all inflammatory diseases of the mucous membranes, vaccine therapy will frequently abort the development of the infection.

If given early it will relieve the necessity of an operation in many cases.

It relieves the distress and improves the well-being of the patient when other remedies fail.

Mixed polyvalent vaccines are more efficacious than autogenous ones of a single strain.

Clinical indications enable us to begin this treatment on as good scientific basis as drugs are administered.

There is no danger in administering this treatment in local infection to patients of all ages.

It should not be reserved as a treatment of last resort. It may be given in all stages of a local infection.

It should not be used to the exclusion of other well recognized remedies, but in conjunction with them.

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE

REPORT OF EXAMINATION HELD AT ANN ARBOR, JUNE 11, 12 AND 13, 1912

Name and College		*Per cent.*
Adams, De Witt C., Department Medicine and Surgery, University of Michigan	1912	81.5
Anderson, Frank C., Starling Medical College	1911	79.8
Anderson, James H., Department Medicine and Surgery, University of Michigan	1912	88.6
Baker, Lucy H., Department Medicine and Surgery, University of Michigan	1912	81.2
Bartholomew, Rudolph, Department Medicine and Surgery, Univ. of Michigan	1912	86
Baskin, Charles L., Department Medicine and Surgery, University of Michigan	1912	83.9
Benedict, William L., Department Medicine and Surgery, Univ. of Michigan	1912	86.7
Beyer, William, F. Department Medicine and Surgery, University of Michigan	1912	88.4
Bien, Walter W. J., Homeopathic Medical College, University of Michigan	1912	80.85
Blair, Minerva L., Department Medicine and Surgery, University of Michigan	1912	81.9
Blossom, Harry S., Homeopathic Medical College, University of Michigan	1912	83.9
Bolender, John E., Department Medicine and Surgery, University of Michigan	1912	88.5
Brodersen, Harvey S., Department Medicine and Surgery, Univ. of Michigan	1912	85.8
Callister, Frances E., Detroit Homeopathic College	1912	81
Chadwick, Florence, Department Medicine and Surgery, University of Michigan	1912	80.75
Cleland, Lester F., Department Medicine and Surgery, University of Michigan	1912	82.85
Collisi, Harrison S., Department Medicine and Surgery, University of Michigan	1912	85.85
Condon, Charles E., Department Medicine and Surgery, University of Michigan	1912	86.1
Conklin, Frederic L., Department Medicine and Surgery, Univ. of Michigan	1912	81.4
Conlin, Gladstone C., Department Medicine and Surgery, Univ. of Michigan	1912	86.5
Cottrell, Asher R., two years American Medical Missionary College, Battle Creek, Michigan; two years Medicine Department, University of Illinois	1912	93.2
Cottrell, Laura M., two years American Medical Missionary College, Battle Creek, Michigan; two years Medicine Department, University of Illinois	1912	87.4
Crabtree, Edwin H., Department Medicine and Surgery, University of Michigan	1912	88.9
Eberly, Karl C., Department Medicine and Surgery, University of Michigan	1912	84.2
Edmunds, William P., Department Medicine and Surgery, Univ. of Michigan	1912	84.8
Endsley, Bert E., Homeopathic Medical College, University of Michigan	1912	78.8
Esten, Arda J., Homeopathic Medical College, University of Michigan	1912	85.6
Flynn, Jeremiah C., Department Medicine and Surgery, Univ. of Michigan	1912	85
Gandy, Charles L., Department Medicine and Surgery, Univ. of Michigan	1912	88.6
Gerls, Frank B., Homeopathic Medical College, University of Michigan	1912	80.3
Gillis, Floyd D., Department Medicine and Surgery, University of Michigan	1912	87.8

Name and College		*Per cent.*
Griswold, Don M., Department Medicine and Surgery, University of Michigan	1912	87
Groom, Wirt C., Department Medicine and Surgery, University of Michigan	1912	89.05
Harris, Seward, Department Medicine and Surgery, University of Michigan	1912	87
Henry, Lucas S., Homeopathic Medical College, University of Michigan	1912	89.5
Hildebrant, Paul W., Homeopathic Medical College, University of Michigan	1912	86.3
Hoiland, Jenny M., Department Medicine and Surgery, University of Michigan	1912	83.9
Hopkins, Wallace E., Department Medicine and Surgery, University of Michigan	1912	86.2
Hoyt, Walter A., Department Medicine and Surgery, University of Michigan	1912	85.65
Huntington, Harry G., Department Medicine and Surgery, Univ. of Michigan	1912	87.4
Irving, George R., Department Medicine and Surgery, University of Michigan	1912	84.7
Jaime, Nicolas, College of Medicine, University of Illinois	1912	85.15
Joldersma, Ruelof D., Department Medicine and Surgery, Univ. of Michigan	1912	83.45
Koivoord, Theodore, College of Medicine, University of Illinois	1912	84.55
Krahn, George F., Department Medicine and Surgery, University of Michigan	1912	88.6
Lewis, Welcome B., College of Medicine, University of Illinois	1912	87.25
Lillie, Harold I., Department Medicine and Surgery, University of Michigan	1912	88.9
Lockwood, Cyrenus B., Department Medicine and Surgery, Univ. of Michigan	1912	87.1
Loomis, Frederic M., Department Medicine and Surgery, Univ. of Michigan	1912	92.5
Manthei, Wyllys A., Department Medicine and Surgery, University of Michigan	1912	85.9
Markham, Harold B., Homeopathic Medical College, University of Michigan	1912	82.5
McCord, Carey P., Department Medicine and Surgery, University of Michigan	1912	86.8
McGarry, Roy A., Department Medicine and Surgery, University of Michigan	1912	85.7
Middleton, Charles C., Department Medicine and Surgery, Univ. of Michigan	1912	85.3
Moon, Louis E., Department Medicine and Surgery, University of Michigan	1912	85.65
Morrish, Ray S., Department Medicine and Surgery, University of Michigan	1912	85.3
Muehlig, George F., Department Medicine and Surgery, University of Michigan	1912	85.3
Muller, Hugo, Department Medicine and Surgery, University of Michigan	1912	81.1
Naylor, George I., Homeopathic Medical College, University of Michigan	1912	86.3
Otis, William K., Homeopathic Medical College, University of Michigan	1912	84.8
Parmelee, Ruth A., College of Medicine, University of Illinois	1912	86.3
Peer, Orville A., Medical Department, University of Louisville	1912	79.85
Pierce, Frank L., Department Medicine and Surgery, University of Michigan	1912	86.1
Pinney, Lyman J., Department Medicine and Surgery, University of Michigan	1912	89.7
Reardon, John S., Department Medicine and Surgery, University of Michigan	1912	86.4
Robbins, Carl W., Department Medicine and Surgery, University of Michigan	1912	84.4
Roblee, Lawrence H., Homeopathic Medicine College, University of Michigan	1912	85.8
Rockwell, Howard C., Department Medicine and Surgery, Univ. of Michigan	1912	85.2
Schule, Paul A., Department Medicine and Surgery, University of Michigan	1912	88.3
Scott, Karl McC., Department Medicine and Surgery, University of Michigan	1912	86.5
Scott, Mildred A., Department Medicine and Surgery, University of Michigan	1912	84.85
Skversky, Abraham, Department Medicine and Surgery, University of Michigan	1912	89.3
Sleeman, Blythe K., Department Medicine and Surgery, University of Michigan	1912	86.3
Smith, Andrew W., Homeopathic Medical College, University of Michigan	1912	83.2
Smith, Charles S., Department Medicine and Surgery, University of Michigan	1912	85.8
Smith, Dennis V., Department Medicine and Surgery, University of Michigan	1912	84.5
Snyder, Ralph B., Department Medicine and Surgery, University of Michigan	1912	84.85
Stauffacher, Charles J., College of Medicine, University of Illinois	1912	82.4
Steinhauser, Charles G., Homeopathic Medical College, University of Michigan	1912	87.5
Stewart, Augustus B., Department Medicine and Surgery, Univ. of Michigan	1912	85.7
Stieve, Reinhardt H., Department Medicine and Surgery, Univ. of Michigan	1912	86.6
Stilwell, Donald L., Department Medicine and Surgery, University of Michigan	1912	88.5
Stokes, John H., Department Medicine and Surgery, University of Michigan	1912	90.6
Stoops, William A., Department Medicine and Surgery, University of Michigan	1912	86.1
Strayer, John C., Department Medicine and Surgery, University of Michigan	1912	88.4
Stueber, Paul J., Department Medicine and Surgery, University of Michigan	1912	82.1
Thomas, David, Department Medicine and Surgery, University of Michigan	1912	88.1
Tichenor, Elmore D., Detroit College of Medicine	1912	82.1
Trewin, Etta May, Department Medicine and Surgery, University of Michigan	1912	82.5
True, John A., Homeopathic Medical College, University of Michigan	1912	88.7
Turner, Alexander L., Department Medicine and Surgery, Univ. of Michigan	1912	83.8
Walch, John J., Department Medicine and Surgery, University of Michigan	1912	85.3
Warren, John N., Department Medicine and Surgery, University of Michigan	1912	84
Wenger, John N., Department Medicine and Surgery, University of Michigan	1912	84.3
Wiley, Harold W., Department Medicine and Surgery, University of Michigan	1912	88.9
Williams, Frankwood E., Department Medicine and Surgery, Univ. of Michigan	1912	87.6
Williamson, John C., College of Medicine, University of Illinois	1912	84.1
Wynn, Harvey R., Homeopathic Medical College, University of Michigan	1912	87.7
Yeo, Gordon H., Department Medicine and Surgery, University of Michigan	1912	84.6

B. D. Harison, Secretary.

The Journal of the Michigan State Medical Society

Published under direction of the Council.

PUBLICATION COMMITTEE:

A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
W. J. DuBOIS, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek. (Ex-Officio)

EDITOR.

WILFRID HAUGHEY, Battle Creek.

EDITORIAL COLLABORATORS:

J. V. White, Detroit, 1st District.
George R. Pray, Jackson, 2d District.
C. S. Gorsline, Battle Creek, 3d District.
C. E. Boys, Kalamazoo, 4th District.
T. De Witt Gordon, Grand Rapids, 5th District.
C. B. Burr, Flint, 6th District.
Daniel Conboy, Bad Axe, 7th District.
B. B. Rowe, Saginaw, 8th District.
Robert E. Wells, Traverse City, 9th District.
F. E. Ruggles, Bay City, 10th District.
V. A. Chapman, Muskegon, 11th District.
E. H. Webster, Sault Ste. Marie, 12th District.
C. M. Williams, Alpena, 13th District.
Reuben Peterson, Ann Arbor, 14th District.

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A.M., M.D., Editor, 24 West Main Street, Battle Creek, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

Subscription Price $2.00 per Year, in Advance.

OCTOBER

EDITORIAL

Members sued or threatened should communicate at once with the chairman of the Medico-Legal committee, SUGGESTING but not RETAINING a local attorney. Power to engage local attorneys rests entirely with our general attorneys. Complications have arisen in several cases, and considerable trouble and unnecessary expense followed, because members have not observed this rule.

ADVANCES IN OBSTETRICS

Relatively few men go beyond what has been taught them. Many never come up to the standard which was prevalent at the time they graduated. With all the progress which has been made in medical matters, it seems that obstetrics has perhaps enjoyed the least. Of recent years, however, the influence of a dozen of really high grade obstetrical teachers has been felt, and is now being enjoyed by hundreds of women who have been attended by the students of these masters.

The advances in obstetrics have been slower than in surgery, undoubtedly on account of several reasons, not the least of which is that few men with special surgical training are doing this work. The general practitioner is doing most of the obstetrical work and very often he is not trained or skilled in the surgical principles and practice which underlie good obstetrics; therefore, a greater morbidity and mortality is apt to follow.

The improved course in obstetrics which is now given in the better medical schools, especially the increased clinical opportunities which are provided to students, are having a very beneficial effect on the grade of obstetrics now being practiced. In former years a student often graduated with perhaps no more clinical obstetrics than to observe a teacher deliver a patient before the class. In marked contrast to this is the present-day requirement of each student serving a period of time in a lying-in hospital or dispensary where he attends from six to twelve cases or more, and under the supervision of a superior. His technic must in this way be correct, and a few demonstrations like these are worth more than a hundred cases handled in a haphazzard manner without supervision.

The application of surgical principles in a more practical manner than formerly has improved the quality of obstetrics. Formerly there was one standard required to remove an appendix and a very much lower one was considered as sufficient to deliver a woman even by means of the most difficult instrumental procedure. With the application of better surgical

principles, the equipment employed in obstetrical cases has been brought up to the standard of major surgery. The time has passed when a man can go to a confinement case with a few instruments, of poor selection and quality—possibly cast-offs from his surgical equipment. He is no longer considered as giving his patient all she deserves unless in addition to good instruments, he has a generous supply of sterile goods similar to those employed in major surgery.

While there is an increasing tendency for women to go to the hospitals for confinement, it will be many years if ever before the hospitals will care for the bulk of this work. If the hospital is conducted on correct lines it can undoubtedly give a superior service, but if the maternity is not kept scrupulously free from infectious conditions, it becomes a greater menace than is the average home with a good obstetrical equipment.

One condition which in the past has been largely to blame for bad results in obstetrics at home, is the lack of adequate help. About the only solution of this handicap which so far has been advanced is for the physician to keep in his employ a woman trained in a hospital or by the physician himself, whose duty it is to help in every confinement case. This not only insures freedom from errors in asepsis, but also makes the technic uniform and takes less time on the part of the doctor.

This saving of time is an important factor in good obstetrics, because even though obstetrical fees in general should be put on a par with other surgery of the same gravity, there will still remain many families who cannot pay them. They must either be taken care of cheaper or fall into incompetent hands. The nurse in the case insures against too hurried delivery with its attending evils. She also makes several after-calls where the physician could make but two or three, and in these calls may save many complications by detecting them in the earliest stage, reporting to the attending physician and applying timely treatment.

Where doctors have been properly schooled, where they have been properly equipped with apparatus and assistants, they have shown a lowered morbidity and mortality in their obstetrical cases.

C. E. B.

THE ENGLISH INSURANCE ACT

July 15th, last, the new British National Insurance Act went into effect. This Act compels all persons earning less than $800 a year to pay (in stamps) a certain specified sum each week to the insurance commission. Employers also have to pay the same sum. Out of the fund so formed each insured is to receive free medical attention and certain other benefits.

The British Medical Association has opposed this Act from the first, and claims that there will not be a sufficient number of physicians in the United Kingdom willing to undertake the services under this Act, to carry it into operation. The first benefits are not payable until January 13, 1913, and until some time after that date it will be impossible to tell how the Act works.

The medical profession claims that the pay offered them is altogether inadequate, and also that people who are able to pay for services rendered are included in this Act. The physicians are allowed only about $1 per year per patient, which is about the same allowed by the Friendly Societies now in operation in the United Kingdom, and by certain similar societies in this country—the Eagles, Owls, Orioles, and various others of the bird and beast variety.

This experiment in England is an interesting sociologic one, because it approaches

the condition foreseen by many physicians, when the members of the medical profession will be sanitary officers of the state rather than private practitioners. This state of affairs will be slow in coming, because so far no plan is proposed either by the English Act or in the minds of far-seeing men which will take care of the natural ambition and natural desire of man, whether a state sanitary officer, or private practitioner of medicine, for advancement and increase of income.

The chief objections raised to the English Act are, that the compensation offered is altogether inadequate, that the profession has not been considered in the drafting of this Act, and that many potential patients who should be able to pay are in this way brought into a class which returns very little to the practitioner.

The subject of compulsory health insurance for all laborers and the subject of medical care for such people by the state, are live topics. They are attracting world-wide attention at the present time, due to the present English Insurance Act, and they are questions which must be solved sooner or later in this country. Thousands of our patients are joining the societies which offer these benefits, and thousands more will join such societies, until the medical profession will be compelled to meet in this country the same, or, mayhap, worse conditions than now confront the Bristish medical profession.

FIRE-ARMS AND THE GENERAL PUBLIC

The last item in the foregoing suggests another reform which has had some agitation in Michigan, but not nearly enough. How frequently do we pick up a paper and read that "Johnny Doe, aged 10, playing with a revolver, or a rifle, has shot and killed his little sister aged 6," or some similar accident.

The total number of deaths due to the careless use of fire-arms in Michigan must reach a large figure. Only a few weeks ago, two boys in their early teens were reported to have found a purse containing six dollars on a railroad right of way; to have gone to a store and purchased two revolvers and some ammunition; to have returned to the railroad right of way, and in the course of target practice to have shot and killed a conductor on the railroad. If there is no law prohibiting the sale of fire-arms to mere children there should be. Is it not time that the sale or use of fire-arms be at least restricted to police officers and certain persons who receive a license from the state to carry such fire-arms?

ON ENUCLEATION OF TONSILS

Medical literature for the past few years has been replete with papers on "Enucleation of the Tonsils." Nearly every writer has a different idea of the proper form of operation, but practically all agree as to the disideratum of complete enucleation with the capsule intact. This is accomplished by Sluder in 99.6 per cent. of cases by the use of Sluder's Modification of the MacKenzie Guillotine; others favor a dissection operation; some use scissors, some knives, curved, bent, sharp on both edges, or sharp on one edge, some with sharp tips and some with dull tips; some operators use the finger, some separate the base with a snare, some with a guillotine, some with the finger-nail, and some with curved scissors; all working to the same end, according to their own ideas and their own experiences, and undoubtedly all attaining a large percentage of good results.

The manifold methods suggested, and the uniform results reported would seem to show that the enucleation of the tonsil is one of the operations in which each sur-

geon should develop his own technic, and after deciding on what for him is best, should bend every effort to perfecting that technic.

The question of proper anesthesia has been discussed and re-discussed. Chloroform has been advocated and condemned. The Committee on Anesthesia of the American Medical Association, in a recent report, advised that on account of its danger, chloroform be not used in the tonsil operation. However, Lindley Sewell, of Manchester, England, in an article in the *Practitioner* for September, 1912, says:

"Of general anesthetics, chloroform or a mixture of chloroform and ether, is the most satisfactory. Nitrous oxide and ethyl chloride do not, generally speaking, allow a sufficiently long period of anesthesia, to permit the method of removing tonsils, I am about to describe, being carried out."

Evidently this question of the best and safest anesthetic is still far from being settled on either side of the water.

THE FOURTH OF JULY IN 1912

In *The Journal of the American Medical Association* for September 7th, appears the tenth annual report of the Fourth of July celebration, and its attendant horrors. This year only seven cases of tetanus have developed as a result of our National Celebration. One of these cases occurred in Michigan—a boy of 13, who was wounded in the hand by a blank cartridge.

In the past ten years 1,086 cases of tetanus have developed and there have been 7,848 blank cartridge injuries, of which seventy-five occurred in 1912. There were, in 1912, from all causes a total of forty-one deaths in the United States, and 947 non-fatal injuries. In Michigan, there were four deaths, one loss of sight, one loss of one eye, seven loss of fingers and thirty-seven "other injuries." The total deaths and accidents in Michigan for the ten-year period have been as follows: 1903, 144; 1904, 157; 1905, 288; 1906, 193; 1907, 163; 1908, 203; 1909, 177; 1910, 143; 1911, 69; 1912, 50. In the city of Detroit, there were two deaths and twenty injuries, in Grand Rapids nine injuries.

This report is indeed a gratification to all of us. It shows what can be done by systematic effort in this direction. During the first seven years of this agitation, the total number of dead and injured in the United States increased from 4,449 in 1903 to 5,307 in 1909, but it takes nearly a decade to make much impression on the general public in education along any new line of thought. The impression which has been made by these years of activity is shown by the results in the past three years—dead and injured in 1910, 2,923; in 1911, 1,603, and in 1912, 988. Since so much has been accomplished we should take heart and urge more strongly than ever this fight against the use of the deadly blank cartridge, giant fire cracker, cannon, etc., as well as against the use of fire-arms, which injured 157, including nine killed.

THE NATIONAL LEAGUE FOR MEDICAL FREEDOM

H. C. Smith, M.D., of Los Angeles, in a paper read before the Los Angeles County Eclectic Medical Society, and published in the *California Eclectic Medical Journal*, for September, 1912, says:

"We seriously and justifiedly contend that the American Medical Association political machine is exerting every effort to legislate us—as a separate school of medicine—out of existence.

"Our state and county societies have aligned themselves with the National League for Medical Freedom in an effort to avert extinction."

The *Raison d' etre* of the National League for Medical Freedom is primarily, secondarily, and wholly to prevent the passage of the Owen bill, or any other bill

looking toward the creation of a strong independent public health service in our national government. It has been shown time and again that the National League for Medical Freedom was organized and secures its directors from among patent-medicine interests, or interests opposed to our National Pure Food and Drugs Act.

Dr. Smith has evidently swallowed the bait, hook and all, thrown out by the National League for Medical Freedom officers, to the effect that the Owen bill is laboring toward the extinction of all sects or creeds in medicine. Such is not the case. The Owen bill distinctly prohibits sectarian favoritism in the make-up of the Public Health Department of the government.

IN MEMORIAM

Dr. Joseph Foster, of Lansing, a graduate of the University of Michigan, 1894, and a former member of the Michigan State Medical Society, died at Detroit, Mich., June 2, 1912, aged 43.

Dr. Chas. G. Jenkins, of Lansing, a graduate of the Homeopathic Medical College, University of Michigan, 1894, and a member of the Michigan State Medical Society, died at Rochester, Minn., June 21, 1912, aged 48.

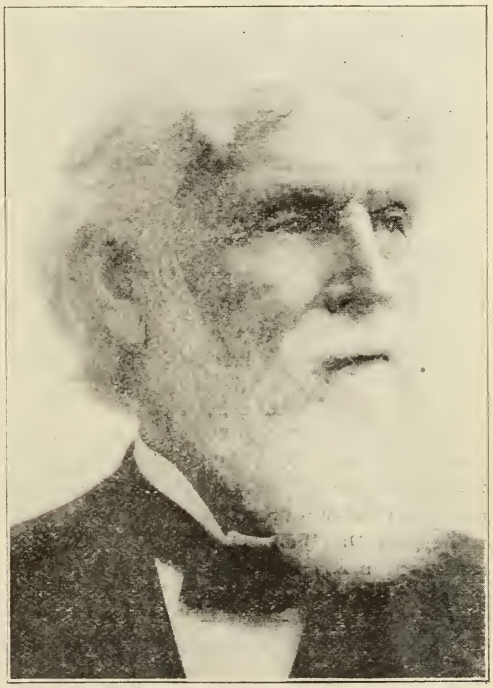
Dr. Henry M. Marvin, of Coloma, a graduate of the Rush Medical College, 1870, and formerly a member of the Michigan State Medical Society, died at Coloma, Mich., May 3, 1912, aged 78.

Robert L. Parkin, M.D., graduate of Detroit College of Medicine, 1896, and formerly a member of the Michigan State Medical Society, died at Romeo, Mich., Aug. 7, of cerebral hemorrhage, aged 51.

DR. JAMES C. WILLSON

Dr. James C. Willson, of Flint, an honorary member of the Michigan State Medical Society, died August 29th at the home of his son, George C. Willson, in his 80th year, from stricture of the esophagus.

Dr. Willson was born in Carolton County, Ontario, April 28, 1833, and graduated from the University of Michigan in 1859, locating at Flint, where he has practiced until within the last three years. Dr. Willson served during the early part of the war as surgeon of the Eighth Michigan Infantry. He was mayor of Flint in 1879 and member of the Board of Education from 1881 to 1884. He served for six years as trustee of the Michigan School for the Deaf. He was president of the Genesee County Savings Bank and a director of the Flint Gas Co.



Dr. James C. Willson

CAT.

NEWS

Dr. Edgar A Planck of Union, Cass County, is the Republican candidate for the state senate from the seventh senatorial district.

Dr. C. D. Brooks and wife, Detroit, have returned from a several months' trip in Europe, where the doctor spent considerable time in postgraduate work.

The Detroit M. E. Conference which met in Alpena, Sept. 12, adopted a resolution to eliminate all patent medicine advertising from their official publications.

Dr. Raymond B. Glement, of Detroit, was married July 11 to Miss Helen Dillon. They are spending their honeymoon in Europe and expect to return during October.

Dr. John Jay Taylor, founder and editor of the *Medical Council*, died recently from cancer of the tongue. Dr. Thomas S. Blair, who for a number of years has been an editorial writer for the Medical Council succeeds to the editorship.

Dr. C. M. Williams, of Alpena, has been nominated for State Senator on the Progressive ticket. Dr. Lee A. Lewis, of Manistee, has been nominated for State Senator on the Democratic ticket, and Dr. Bion Whelan, of Hillsdale, is candidate for State Representative on the Progressive ticket.

Dr. W. H. Watters, director of the Department of Pathology and Bacteriology, Evans Institute for Clinical Research, Boston, Mass., is preparing a paper upon the subject of Vaccine Treatment of Typhoid Fever, and would be glad to hear from anyone who has used vaccines in the treatment of typhoid fever. Reports are requested before December, if possible.

The *Gleaner*, a paper published in Detroit, in its number for July, contains an excellent article by Grant Slocum, the editor, entitled "Fifteen Blue Bottles and a Green Guarantee Bond." This article deals with the patent medicine evil in a very creditable manner, giving also a few illustrations of fraud as it relates to patent medicine. But the same paper contains an advertisement of "Sal-Vet," a patent remedy for pigs, cows and horses, and "Bickmore's Gall Cure," another patent remedy.

Dr. John B. Donaldson of Canonsburg, Pa., died June 29, 1912. Dr. Donaldson was secretary of the Washington County (Pa.) Medical Society, and was president of the Pennsylvania State Society in 1910. Dr. Donaldson was the original County Society Bulletin man, having established the first bulletin in Washington County, from which we have frequently quoted. That his idea was progressive, is evident by the fact that we now have six county society bulletins in Michigan. There are thirty-two in Pennsylvania. Dr. Donaldson's idea was a fruitful one in organization work in medical societies.

The Tuberculosis Sanatorium conducted by the Board of Health and Poor Commissioners of Grand Rapids, has issued a survey of five years' work. Two hundred and ninety-eight patients have received 31,134 days' hospital treatment. Of these seven were incipient cases; sixty-seven, early; 126, advanced; thirty-one, far advanced; six, orthopedic; two, moribund; and five, educational. The reported results are: apparently cured, thirty-three; disease arrested, seven; improved, thirty-three; greatly improved, nine; not improved, twenty-nine; died after leaving the institution, forty-one; died, eighty-six.

This little report is very comprehensive, giving illustrations of the buildings, grounds, method of caring for patients, and the officers of the institution, making in all a twenty-four page booklet.

During the last session of Congress, a bill was passed, changing the name of the United States Public Health and Marine-Hospital Service to the United States Public Health Service.

The regulations and laws relating to the U. S. P. H. and M.-H. S. are declared to relate to the Public Health Service. The Public Health Service is given authority to "study and investigate the diseases of men and conditions influencing the propagation and spread thereof, including sanitation and sewage and the pollution either directly or indirectly of the navigable streams and lakes of the United States, and it may from time to time issue information in the form of publications for the use of the public."

The salaries of the various officers of this service are also increased to equal the medical service of the army and navy.

WORK PLANNED BY THE MICHIGAN PUBLIC HEALTH EDUCATION COMMITTEE

The time is most auspicious for results in preventive medicine education, for public opinion is aroused and the laity is reaching out into the work through many of its own organizations and methods.

The State and County Medical Societies cannot be other than responsible in the aiding and guiding of these forces. An appeal is made directly to each county society to aid in establishing a permanent working system toward definite ends in using similar methods through its own appointed health committee.

If this appeal is responded to throughout the state, results will be obtained, making Michigan a state prominent in preventive medicine work —the work being largely done by the laity, the guiding by the medical societies.

The scheme of work is similar to that of last year, but more definite and effective. (See State Medical Journal, Aug. 1912, page 525.) The National Federation of Women's Clubs and the State and County Federated Clubs have established excellent methods and subjects in health work. The State Grange, consisting of hundreds of women, some owning and running their own large dairy farms, have established most interesting lines of health work.

The ministers individually and through their ministerial alliance have lecture courses on preventive medicine and health days in their churches.

It is proposed to do the public health education work of the Michigan State Medical Society largely through these three organizations, and each county medical society is asked to follow this plan as far as available.

The objects to be attained during this coming state medical year are:

1. Eradication of typhoid fever.
2. Obtaining a clean milk supply.
3. Lessening of contagious diseases.

Each medical society is also to first begin a regular systematic course of about ten lectures, open to teachers, clerks, stenographers and the general public. These lectures are to be given by different physicians on the above and other desirable subjects pertaining to preventive medicines. Second. To arrange a banquet, having as guests, editors, ministers and instructors, and as a subject preventive medicine presented by a popular physician and an open discussion of the subject following, the object being to start the work among the guests according to the needs of the community. Third. To arrange for a program on preventive medicine in each medical society, this to take the form of a symposium, in which the work outlined and accomplished by the state health officers, antituberculosis society and other health organizations in the community is made known. Such a meeting would be interesting and induce much discussion. Outside broader work should also be presented by some outside special worker.

The state committee hope to arrange with the State Federation of Women's Clubs and Michigan State Grange, so that a similar plan of work may be followed by these two organizations, the guiding and special instruction being obtained through the local medical society. Secondarily, the county society is asked to consider the need in the schools of school physicians and school nurses for detecting contagious diseases, impaired sight and hearing, and diseases of the teeth, a common effective measure for caring for infected materials from doctors' and dentists' offices in public buildings; that they may not reach the public dump heap to infect the unwary.

Let us work for a national department of health and the value of students of vivisection.

Immediate action is requested from county medical societies.

Free lectures can be obtained on dentistry, and preventive medicine from the University Extension Course. Address, Extension Bureau, Prest. office, University, Ann Arbor.

State bulletins free, Sec. State Medical Board, Lansing, Michigan.

Bulletins on special subjects as milk, meat, etc. (one to each applicant), Superintendent of Agriculture, Washington, D. C.

Special literature on special subjects. 55 Sheldon Avenue, Grand Rapids, Mich.

SOCIETY NEWS

GENESEE COUNTY MEDICAL SOCIETY

The regular quarterly meeting of Genesee County Medical Society was held at Flushing on Dr. Tock's veranda, July 30, at 4 p. m.

Dr. F. L. Covert of Gaines, and Drs. Joseph Scheidler and J. H. Horton of Flushing, were elected members. Following a lengthy business meeting, a humorous paper was read by Dr. C. B. Burr, entitled, "Some of Dicken's Insane Characters." Dr. Don Knapp presented an interesting paper on Typhoid Vaccination. Discussion followed.

On motion the meeting adjourned for refreshments.

Dr. Tock was extended a vote of thanks for his hospitality.

Tuesday, Aug. 20, retail druggists and physicians of Genesee County had an excursion to Lake Orion. The druggists defeated the physicians in an exciting baseball game by a score of 16 to 6. Following the ball game a fish and frog dinner was served at Hotel Belleveu. Ninety were present and a good time reported by all.

Special meeting of Genesee County Medical Society was held Aug. 30, to honor our deceased honorary member, Dr. James C. Willson.

Drs. Burr, Tupper, McGregor, Manwaring and President Bates, spoke very honorably and very lovingly of Dr. Willson.

Moved by Dr. Burr that the minutes contain the expression of the love and appreciation the Society feels toward Dr. Willson. This expression to accompany the resolutions.

Supported and carried unanimously.

The following resolutions were adopted by the Society on the death of Dr. Willson:

It has been truthfully said of him who has gone from our midst that his ideals were invariably of the highest character. He was the courtly gentleman, the scholarly associate, the devoted physician, the sympathetic friend, the patriotic citizen, the tender husband, and the indulgent father. Dr. James C. Willson has lived for fifty-five years in this community. He numbered among his friends and well wishers, all who have known him well, of whatever walk in life, of whatever race, of whatever shade of political or religious opinion. Of enemies and detractors there are none. Concerning few men can such a record be veritably inscribed. His example may be imitated but it is beyond human power to exceed its consistency toward the goal over which is inscribed those words "well done," the reward of the good and faithful servant.

His picturesque head, his benignant face, his manly bearing will be in evidence no more on the streets of the city blessed by his residence. His helpful words and wise counsel are no longer available in the society of which he was a pillar and tower of strength, but the recollection of his commanding presence, his erudite judgment and his lovable personality will not fade from the minds of his fellow members of the medical profession of which he was so conspicuously an ornament.

He was firm in the right, but just and fair. He knew no compromise with iniquity but he unhesitatingly condoned mistakes in those of less exalted standards than his own, and charitably recognized in his estimate of men those bounds and limitations upon rectitude of conduct which exigency and adverse circumstances so frequently impose. If one who has been faithful in a few things may enter into the joy of the Lord, what shall be the reward of him who was to outward seeming faithless in none?

The Genesee County Medical Society will not cease to mourn its loss, and joins with the citizenship of Michigan in presenting condolence and sympathy to the sorrowing family. It directs that this minute be inscribed upon its records.

F. L. Tupper,
M. S. Knapp,
C. B. Burr,
Committee.
C. P. Clark, Secretary.

Flint, Michigan, August 30, 1912.

KALAMAZOO ACADEMY OF MEDICINE

At the meeting in Allegan, which was held June 25, it was agreed to hold a special meeting during July for the purpose of electing some member of the academy to superintend the tuberculosis clinic. This was agreed upon in response to the offer of the Kalamazoo Anti-Tuberculosis Society to provide the expense of conducting the work if the academy would provide the physician to conduct it.

The special meeting was held in Kalamazoo on July 23, and Dr. B. A. Shepard was elected to manage the clinic, and given the title of Chief of Staff, it being understood that he should appoint such other physicians to assist in the work as conditions might require.

Dr. Shepard promptly set to work with the committee from the Anti-Tuberculosis Society to formulate plans. It was with much difficulty that a suitable place for conducting the clinic was found. At this writing, however, a very

desirable location has been agreed upon where the work will have good accommodations. In the meantime Dr. Shepard has started the work by caring for certain cases either at his office or at their homes.

Several prominent citizens outside of the medical profession have taken a keen interest in the work, and are providing funds for its promotion. The outlook is very bright for a much-needed and successful service for the tuberculosis victims of Kalamazoo.

C. E. Boys, Secretary.

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1912, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Neosalvarsan is a mixture of sodium 3-diamino-4-dihydroxy-1-arsenobenzene - methanal-sulphoxylate, $NH_2.OH.C_6H_3.As:As.C_6H_3.OH.NH(CH_2O)LSNa$, with inert inorganic salts. The arsenic content of three parts of neosalvarsan is approximately equal to two parts of salvarsan. Neosalvarsan is supplied in sealed tubes containing, respectively, 0.15 Gm. (2 3-10 grains), 0.3 Gm. (4 6-10 grains), 0.45 Gm. (6 9-10 grains), 0.60 Gm. (9 3-10 grains), 0.75 Gm. (11 6-10 grains), 0.9 Gm. (13 9-10 grains). It is readily soluble in water forming solutions which are neutral to litmus and very unstable. The action and uses are the same as those of salvarsan. The average single dose for man is 0.75 Gm. (12 grains). It may be administered by intramuscular or, preferably, by intravenous injection. For intravenous injection 25 c.c. freshly distilled water for each 0.15 Gm. is to be used. For intramuscular injection 3 c.c. of water should be used for each 0.15 Gm. neosalvarsan, this yielding an approximately isotonic solution. Victor Koechl & Co., New York (*Jour. A. M. A.*, Sept. 14, 1912, p. 879).

Saloquinine, the salicylic ester of quinine, is described in New and Nonofficial Remedies, 1912. The product as sold by Merck & Co., New York, has also been admitted to N. N. R. (*Jour. A. M. A.*, Sept. 14, 1912, p. 879).

Articles Accepted for N. N. R. Appendix. —Menthol-Iodol is a mixture of iodol 99 parts and menthol 1 part. Kalle & Co., New York (*Jour. A. M. A.*, Sept. 14, 1912, p. 879).

THE TRUTH ABOUT MEDICINES

It is the purpose of this department to encourage honesty in medicines, to expose frauds and to promote rational therapeutics. It will present information regarding the composition, quality and value of medicaments, particularly as this is brought out in the reports of the Council on Pharmacy and Chemistry and of the Chemical Laboratory of the American Medical Association.

Radioactive Substances in Therapy — From a discussion on the therapeutic value of radioactive preparations at the German Congress of Internal Medicine in April of this year, the conclusion seems to be justified that very large doses of the emanations or of the thorium X solutions are necessary to secure therapeutic results and in these cases the therapeutic results appear to be separated from the toxic action by a very narrow margin. It is evident, therefore, that the use of these substances is still in the experimental stage, that little if any effect is to be expected from preparations on the market, especially as they contain only extremely minute doses which, although probably safe, are probably also worthless (*Jour. A. M. A.*, Aug. 17, 1912, p. 541).

Medical Meetings as Advertising Mediums. —The promotion of a proprietary nostrum by means of papers read before a medical meeting has gone out of vogue in this country. But while conditions have improved here, they seem to have grown worse in Germany. Now, however, it appears that a halt will be called before long. Recently Dr. Bernheim of Paris, who is much interested in the exploitation of a new "consumption cure" read a paper before the German Congress for Internal Medicine. Later this paper was reprinted and distributed by the promoters of dioradin. Included with this reprint were testimonials which originally were

not a part of the paper. The reprint bore the imprint "German Congress for Internal Medicine" and thus the society was made to lend official sanction to the testimonials. In view of this a protest has been issued by the presiding officer, Professor Penzoldt. This protest is evidence that the German medical profession is awakening to the wretched conditions which have developed in that country in connection with the exploitation of proprietary medicines (*Jour. A. M. A.*, Aug. 17, 1912, p. 549).

An Opportunity for the Pharmacist.—Although the pharmacist can do much toward the advance of medicine and also toward the improvement of the public health, his commercial tendencies have to a large extent made him lose sight of his opportunity. While, in particular, the tendencies of the National Association of retail druggists toward the perpetuation and extension of the patent medicine and the nostrum business have not been a credit to pharmacy, *N. A. R. D. Notes*, the official organ of the N. A. R. D. has started a public health propaganda department in which the druggist is urged to protect the public by giving advice as to the seriousness of various diseases and the need of their treatment by trained physicians. When it is considered that a large number of people go to their druggist for advice or treatment for ailments of all kinds, the opportunity which is in the hands of the pharmacist will be appreciated (*Jour. A. M. A.*, Aug. 17, 1912, p. 569).

Marjorie Hamilton Obesity Cure Aftermath.—Following the exposure of the Marjorie Hamilton Obesity Cure (*Jour. A. M. A.*, March 16, 1912, p. 798) the United States postal authorities took a hand and on June 7, 1912, W. C. Cunningham and his wife, Marjorie Hamilton Cunningham, were indicted by the federal grand jury and placed under arrest for fraudulent use of the mails. Although, since the Marjorie Hamilton business was exposed, Cunningham has branched out into a new mail order fake line, a "quick wrinkle remover" introduced by "Princess Tokio" the Denver papers now announce that he will withdraw from business and confine himself to the European field—where frauds of this sort are less liable to be molested (*Jour. A. M. A.*, Aug. 17, 1912, p. 561).

Tyree's Antiseptic Powder.—For years Tyree's Antiseptic Powder was advertised to the medical profession with claims that were unwarranted as to both composition and therapeutic effect. Analyses show that the preparation was essentially nothing but a simple mixture of sulphate of zinc and boric acid. The medical profession having prescribed the nostrum, the original package scheme did the rest and now Tyree's Antiseptic Powder goes to the public direct. It is now advertised in newspapers as "Ideal for douches," "Best preventative known," etc. That a nostrum of this sort should go to the public is not surprising but that it should have reached the public through the instrumentality of the medical profession is a serious reflection on the judgment of physicians. That the exploiters of this nostrum no longer find it profitable to use medical journals as a means of getting their stuff to the public but must needs use the more expensive newspaper advertising, is cause for optimism. It means that physicians are no longer prescribing, indiscriminately, proprietary products and that they are refusing to be, what they have been in the past, the unpaid distributing agents for nostrum venders (*Jour. A. M. A.*, Aug. 24, 1912, p. 666).

The Food and Drugs Act Amended.—About a year ago the Supreme Court decided that the Food and Drugs Act of 1906 contained no prohibition against false statements as to therapeutic value. Now Congress has amended the law by adopting Congressman Sherley's amendment which makes therapeutic lies on the label of a medicine illegal by adding the following as paragraph 3 to Section 8 "If the package or label shall bear or contain any statement, design, or device regarding the curative or therapeutic effect of such article, or any of the ingredients or substances contained therein, which is false and fraudulent." There can be no question as to the intent of this amendment. It says to the "patent-medicine" faker in plain and unequivocal terms: "Thou shalt not lie" (*Jour. A. M. A.*, Aug. 31, 1912, p. 727).

Viburnum Compounds and Other Nostrums.—There are a number of drugs which have in some way obtained a reputation as being valuable in the treatment of diseases of women without their therapeutic claims ever having been proven. A considerable number are combined in various nostrums (sometimes with therapeutically active drugs) and exploited for the cure of female disorders. Thus Hayden's Viburnum Compound is claimed to contain American skullcap (*Scutellaria lateriflora*), cramp-bark (*Viburnum opulus*) and wild yam

(*Dioscorea villosa*). Other mixtures of this kind including "patent medicines," proprietary nostrums and "pharmaceutical specialties" contain such drugs as black cohosh, blue cohosh, goldenseal, lady's slipper, false unicorn-root, cramp-bark, wild yam, star-grass, trailing arbutus, motherwort, Jamaica dogwood, pulsatilla, squaw-vine and saw palmetto. The popularity of preparations of this kind is purely an artificially created one. A nostrum containing, let us say, extractives of some little-used or worthless drugs is put on the market and heavily advertised. Should it be advertised in a manner to make it sell, a host of imitations appear and the large pharmaceutical houses put out substitutes for it. The uncritical physician does the rest. He prescribes it indiscriminately in the class of cases for which it is advertised. Naturally, a certain proportion of the patients who take it recover, and the recoveries are credited to the nostrum. A vicious circle is thus established and the demand for the stuff increases. Its sale, and the sale of similar products, continues until the overwhelming experience of those who have prescribed it proves its uselessness. In the meantime the manufacturers have reaped a harvest at the expense both of the public and of the medical profession. And the manufacturers' excuse for putting such absurd "specialties" on the market is that physicians prescribe them! (*Jour. A. M. A.*, Aug. 31, 1912, p. 735).

Missouri Progressive.—At the annual meeting of the Missouri Medical Association the following motion, urging its members not to support medical journals which carry questionable advertising was adopted:

Whereas, The American Medical Association has been doing effective work to counteract the influence of certain medical journals whose advertising pages carry many fraudulent advertisements; therefore, be it

Resolved, That it is derogatory to the best interests of the Missouri State Medical Association for members to publish articles or papers in medical journals which are not in sympathy with the purposes of this organization; and further

Resolved, That members are hereby requested to cease publishing original articles or other matter in journals whose advertising pages contain fraudulent and questionable advertisements and to give loyal and constant support to the *Journal of the Missouri State Medical Association* (*Jour. A. M. A.*, Aug. 31, 1912, p. 735).

The Habitina Fraud.—The promoters of Habitina, R. C. Prewitt and Ryland C. Bruce constituting the Delta Chemical Company, were fined $2,000 and sentenced to five years at hard labor in the United States Penitentiary. Habitina was one of those vicious mixtures containing large amounts of morphine which are sold to drug addicts but which instead of curing substitute slavery to a high-priced, fancy-named, morphin mixture for that to the simple opiate itself. In summing up the case the post-office inspectors, in their report, concluded as follows: "The conviction obtained in this case has terminated one of the most pernicious and outrageous frauds ever perpetrated on a credulous public, who were not only defrauded out of large sums of money, ranging from a few dollars to over $2,000 each, but were robbed of health of body and mind; some were rendered blind and some were made maniacs—how many died under the 'treatment' will never be known—but, taking their own testimonials as a source of information, four out of eight have died drug addicts, and out of the thousands of persons they have treated but one witness could be produced by the defendants to testify in behalf of this drug having any remedial properties whatever. These defendants deliberately fostered the most dreadful forms of drug slavery for their personal gain. They made no effort to cure the patient for the blood money thus obtained. They produced no evidence which would traverse the contention of the Government that the whole purpose of the defendants was to substitute for the slavery to the drug purchased by the habitue from the 'corner pharmacist' under the restrictions of state law, the slavery to the same and worse drugs purchased under a disguised name at many times a fair commercial price from the Delta Chemical Co." (*Jour. A. M. A.*, Sept. 7, 1912, p. 817).

Morphin Versus the Combined Opium Alkaloids.—The results obtained with the isolated "active principles" of drugs have in certain cases been observed to be not entirely identical with those obtained by the administration of galenical products or the crude drug itself. This is notably true of opium, the therapeutic efficacy of which is somewhat different from that of its chief alkaloidal ingredient morphin. W. Straub has undertaken to throw some light on these differences. While it is probable that they would be due to the minor alkaloids of opium, to quote Straub: "It is improbable, *a priori*, that it is necessary,

in order to improve the action of morphin, to drag in the whole of the two dozen alkaloids of opium; it is much more probable that only the most active or the most abundant of the alkaloids need to be considered." The researches of Straub have made it probable that the practical differences in the action of opium and morphin are mainly due to the narcotin. H. Caesar has made comparable trials with the other alkaloids associated with morphin in opium and found that these do not produce the reinforcement under discussion. They do have complex modifying effects, however, which are further complicated by any changes in their relative proportions vary enormously in different samples of opium, and still more in its galenical preparations, Straub and Caesar suggest the employment of a simple mixture of equal parts of morphin and narcotin in place of the opium (*Jour. A. M. A.*, Sept. 14, 1912). p. 882).

FOOD AND DRUGS ACT CONVICTIONS.—The owners or sellers of the following "patent medicines" have been prosecuted by the federal authorities in the enforcement of the Food and Drugs Act:

Wood's Soothing Syrup, Wm. J. Wood, Trenton, N. J.—It has been claimed to be 'a sure cure for croup," " a preventative against taking cold," etc. Analysis indicated it to be a watery-alcoholic solution of opium, aromatic bodies, sugar, inorganic salts and undetermined matter.

Ralston's Select Bran and Acme Diabetic Flour, Acme Mills Company of Portland, Oregon.—Ralston's Select Bran was claimed to be a brain and nerve food, to give brightness to the eye, cure torpidity of the liver, etc. Examination proved it to be nothing more than ordinary bran. Acme Diabetic Flour was sold under the claim that it was "milled by special process to preserve gluten properties of wheat." While this statement gave the idea that gluten was the chief constituent of this flour, the analysis showed that the product did not contain any more gluten than is found in ordinary wheat flour. While recommended to diabetics it contained an amount of starch equal to that found in ordinary flour.

Dr. Caldwell's Rheumatism Cure, "John" W. Horter, New York.—This nostrum was sold under the usual extravagant claims. Examination indicated it to obtain alcohol, salicylic acid, ammonia and traces of bromides, a chlorid, an alkaloid (not identified); sodium and phosphorus were found.

Dr. Caldwell's Anti-Pain Tablets, Dr. Caldwell Medical Company, Poughkeepsie, N. Y.—These were found to contain acetanilid 51.4 per cent., caffein 12.3 per cent., cornstarch 23.2 per cent., camphor, present. The product was found misbranded because the label said nothing in regard to the acetanilid content.

Hoff's Consumption Cure, Bendiner & Schlesinger, New York.—This was found to contain morphin, cinnamic acid, potassium and arsenic. It was declared misbranded because its morphin content had not been declared and because of the untrue therapeutic claims made. With this cure came four other nostrums: Superlatone, Adjunct Cough Mixture, Concentrated Appolozer's Mixture and Kodal Tablets, all of which the victim was expected to use along with the "cure" (*Jour. A. M. A.*, Sept. 14, 1912, p. 893).

MEDICOLEGAL

ATTENDING PHYSICIAN TESTIFYING TO RESULTS OF AUTOPSY

(*Thomas vs. Byron Township (Mich.), 134 N. W. R., 1021*)

The Supreme Court of Michigan holds that, where neither the deceased nor the representative of her estate had waived the statutory privilege, it was error to permit the physician who attended her from the time of her injury until her death to testify, in an action brought by the administrator of her estate to recover damages for her injury, to the results of an autopsy and his conclusions therefrom as to the cause of her death. The question so decided the court says was one of first impression before it, and one on which the authorities gave no great assistance, no case being cited by counsel, and the court being unable to find any, where the exact question presented has been passed on.

There was no dispute but that the relation of physician and patient existed during the lifetime of the plaintiff's decedent, or that all communications and knowledge which are inhibition of the Michigan statute received by this physician during her lifetime were privileged and so continued, there having been no waiver; but it was claimed that the death of the patient made this testimony competent. From the examination of the witness the court concludes, by the questions asked, the answers to which were excluded as privileged, that he had during the lifetime of the patient made such an exami-

nation of her person, and received such information, as was necessary to diagnose her case and prescribe for her, and also that he had disclosed to the defendant's attorney such facts. The court must also conclude from the record that on account of this relation, which existed between the witness and the deceased, it was possible for him to proceed within a few hours after her death to hold an autopsy.

The statute involved has been in force, in Michigan, without amendment, since the revision of 1846. Its provisions are therefore a part of the fixed policy of the state. This court has given it a liberal construction in protecting the privilege of the patient created by it. To allow the testimony of this attending physician as to this autopsy and his conclusions therefrom would operate to take away such privileges clearly granted. This testimony was improperly given in the case. Any other construction and determination is not in harmony with this court's construction of this statute and cannot be entertained. It was error to admit it.

The court also holds that it amounted to prejudicial error for counsel for the defendant to repeatedly ask the witness similar improper questions, apparently to get before the jury incompetent testimony, after an objection had been sustained to a question asking him to state what he determined from his visiting the patient and diagnosing her case was the matter with her. This court has repeatedly held that such conduct will not be tolerated.—*Journal A. M. A.*

ATTENDANCE ON INDIGENT PERSONS FOR WHICH COMPENSATION MAY BE HAD—ACTION OF BOARD OF SUPERVISORS NOT FINAL

(*Chapman vs. Board of Supervisors of Muskegon County (Mich.), 134 N. W. R., 1025*)

The Supreme Court of Michigan says that the plaintiff, a physician, rendered professional services to one Bessie Peterson, an alleged indigent person, starting to attend her some time before he claimed to have been directed to care for her by the supervisor of the township, and continuing to attend her until Oct. 1, 1903, when he removed to Chicago, having arranged with another physician to take care of her for him. She was afflicted with tuberculosis of the bowels.

The claim that it was not shown that Bessie Peterson was an indigent person might be disposed of by noting that the health board of the township by resolution determined that at the time that services were rendered Bessie's father was not financially able to pay for them. Moreover, this court had held that in case of legal employment the pecuniary ability of the patient is not controlling. Nor could it be said that there was no evidence of legal contract.

It was contended that the board of supervisors having disallowed the plaintiff's claim, its decision was final. But the circuit court had jurisdiction to entertain an appeal. The services for which compensation was sought were all rendered before the adoption of the constitution of 1908. Section 9 of Article 8 provides: "Appeals may be taken from such decisions of the board of supervisors, or auditors, to the circuit court in such manner as shall be prescribed by law." Section 2 of Act No. 58, Public Acts of 1909, provides that: "When the claim of any person, firm or corporation shall be disallowed in whole or in part by the board of supervisors, or board of county auditors, such person, firm or corporation may appeal from the decision of such board to the circuit court for the same county." The language of this act is very broad. No intimation is there given that appeals will lie only in those cases in which the claim arose subsequently to the passage of the act. The right given apparently covers every case of total or partial disallowance. It is clear that this statute confers no new rights, or creates no new liability. It affects the remedy only for a pre-existing right, and as such may be invoked in the enforcement of that right.

But while it has been held that this statute should receive a liberal construction in the inter of the public health, this court thinks that it would be going too far to hold that a physician having a contract of employment with a health board might hire another physician to do the actual work, and himself collect for the service. It may well be supposed that the element of personal fitness enters into the contract. The board certainly is clothed with the power of selection, and the county should not be called on to pay for the services of a physician with whom no contract was made. It seems equally plain that that portion of the bill represented by charges made by the plaintiff for services rendered by himself prior to the making of the contract was properly disallowed. However, the plaintiff was entitled to compensation for medicines furnished by him, under his contract, even though they were administered by the hand of another.—*Journal A. M. A.*

BOOK NOTICES

THE PRACTICAL MEDICINE SERIES, Comprising ten volumes of the Year's Progress in Medicine and Surgery. Under the general Editorial Charge of Gustavus P. Head, M.D., and Charles L. Mix, A.M., M.D.—Vol. VII. Eye, Ear, Nose and Throat. Edited by Casey A. Wood, C.M., M.D., D.C.L., Albert H. Andrews, M.D., and Gustavus P. Head, M.D., Series 1912. Chicago: The Year-book Publishers. Set, $10; Vol., $1.25.

To mention the subjects discussed in this review of the year's literature upon this special field would be presumptious. Suffice that the literature has been carefully examined, and points of value have been carefully and concisely presented in this valuable little book.

PSYCHOTHERAPY, including the history of the use of mental influence, directly and indirectly, in healing, and the principles for the application of energies derived from the mind to the treatment of disease. By James J. Walsh, M.D., Ph.D., Dean and Professor of Functional Nervous Diseases and of the History of Medicine at Fordham University School of Medicine, and of Physiological Psychology at the Cathedral College, New York. New York and London: D. Appleton & Company, 1912. Cloth, $6.00 net.

Dr. Walsh has given us a very entertaining book, containing most valuable suggestions for the use of physicians. The style and sequence of the book are strongly suggestive of a course of lectures, given by a man who has the knack of talking to his audience instead of lecturing. Psychotherapy is open to large abuse, and has been so abused. The latin proverb quoted in the introduction, "From the abuse of a thing no argument against its use can be drawn." is apropos in no place more than in this subject, but formal study of Psychotherapy and its intelligent use will give untold benefit to our patients.

We read under the history of Psychotherapy that the great success of the first physician of history, I-em-Hetep, depended largely upon his knowledge of men and his ability to cheer and relieve their sufferings, both physical and mental. All along down the ages Psychotherapy was used, but not especially under that name.

We read how Galen re-echoed Hippocrates' expressions, as to the necessity for securing the patient's confidence and setting his mind at ease. We read of the success of great physicians: Agrippa, Sydenham, Morgagni, Hunter, and of charlatans such as Galen's Weaver, St. John Long, Cagliostro, Perkins and Mesmer. The secret of the wonderful cures performed by Galen's Theriac, St. John Long's Liniment, by the Weapon Ointment, by Sarsaparilla, and numberless other preparations, in addition to amulets, talismans, charms, and the like, are easily understood by perusal of these pages.

The author takes up the every day life of the individual, showing how personal suggestion, right living, cheerfulness, freedom from introspective thoughts, tend to increase the natural functions of the body, natural health and the happiness of the individual.

The principles of Psychotherapy are simple. They are such as each and every physician uses every day in his practice, but they are analyzed, classified and presented upon a working basis by our psychotherapists.

Richet says "physicians can seldom cure but they can nearly always relieve and they can always console.". There is a lesson in this thought for all, and a careful reading of this book shows how easy it is to render the service necessary for those consolations. The application of Psychotherapeutics to the various systems, and the conditions of the body is presented in detail, taking up the digestive tract, the circulatory system, respiratory diseases, psychotherapy in joint and muscular systems, in gynecology, in genito-urinary diseases, in the disease of the ductless glands, in organic nervous diseases, neuroses, disorders of the mind, disorders of the will, and in surgery.

This is a most valuable work, instructively presented and we can strongly recommend it to anyone interested in relieving and consoling his patients, whether he be neurologist, surgeon, oculist, aurist, or general practitioner.

THE PHYSIOLOGY OF FAITH AND FEAR, or the Mind in Health and Disease. By William L. Sadler, M.D., Professor of Physiologic Therapeutics, Chicago Post-Graduate Medical School. Illustrated. Chicago: A. C. McClurg & Co., 1912. Price, $1.50.

This book is written primarily for the layman and Dr. Sadler early states that he "desires to separate the study of mental healing from any and all particular brands of religion," and approaches the subject from the standpoint of the physician and physiologist. Each phase of psychology as related to the abnormal and "unnormal" individual is carefully analyzed and studied. The under tone of treatment is the gospel of good will, good cheer, and bouyancy, as contra-indicated by nervousness, combativeness, restlessness, and the various other mental conditions that all physicians know by experience tend to prolong the sufferings of their patients.

It is an interesting psychological study showing how faith, cheerfulness, belief, etc., the gospel of good will, good cheer and buoyancy, has a therapeutic effect so entirely different from the opposite mental condition—fear.

The two words faith and fear are used to designate the two opposite mental conditions met with so often by physicians in treating the sick and especially the neurasthenic.

A Manual of Pharmacy for Physicians, by M. F. DeLarme, M.D., Ph.G., Assistant Professor of Materia Medica and Pharmacology, Long Island College Hospital. Third Edition. Philadelphia: P. Blakeston's Son & Co., 1912. Price, $1.25 net.

This is a handy little volume devoting plenty of space to prescription writing and prescription Latin. Following is an analysis of pharmaceutical preparations and a list of some of the official drugs put up in the various forms described, with percentage and composition. The book gives a great mass of information in an accessible and compact form.

An Essay on Hasheesh, including observations and experiments by Victor Robinson. Contributing Editor, Medical Review of Reviews, 1912. New York: Medical Review of Reviews. Price, 50 cents.

This little volume of eighty-one pages contains besides the history and physiological action of Hasheesh graphically depicted, many a laugh and a very pleasant hour's diversion. Once having read this essay one will have more respect for and a better understanding of the drug. Victor Robinson is gifted with the flow of language which gives an added zest.

A Text-Book of Practical Therapeutics, with especial reference to the Application of Remedial Measures to Disease and their employment upon a rational basis. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; one-time Clinical Professor of Diseases of Children in the University of Pennsylvania; Laureate to the Royal Academy of Medicine in Belgium; member of the Committee of Revision of the United States Pharmacopeia of 1905. Fourteenth Edition, enlarged, thoroughly revised, and largely rewritten. Illustrated with 131 engravings and 8 plates. Lea & Febiger, Philadelphia and New York, 1912.

The above well-known work, so highly appreciated, is now ready in the fourteenth edition in which is added sections and chapters on the newer things in Therapeutics. The style of description is such, that the student may know not only the action and effect of the drug or measure, but also how and when to use or apply it. The newer drugs and their action have received ample space and attention. It is a pleasure to note that chloroform in the author's opinion is still of service, and under proper conditions reasonably safe, also cases are shown where it is preferable to other forms of anesthesia. Ether also received ample consideration.

A chapter on salvarsan is of interest. Remedial measures other than drugs; for example, serums, baths, Bier's Hyperemic Treatment, cold, heat, disinfections, enteroclysis, inhalations, lavage, mineral springs, climate, rest, feeding the sick, comprise an important feature.

Much attention is given to diseases, their description with relation to the remedies to be applied, how to apply them, why to apply them, when to apply them.

The reviewer bespeaks for this edition a continuation of the great popularity won by the preceding editions.

A valuable feature is that covering the toxic effects of drugs, describing fully the symptoms, and grouping in easy manner of access, the antidotes and other means to be employed in combating these ill effects.

The Practice of Medicine. A Manual for Students and Practitioners. By Hughes Dayton, M.D., formerly of the Cornell University Medical School, New York. New (Second) Edition, Thoroughly Revised. 12mo, 326 pages. Cloth, $1.00 net. The Medical Epitome Series. Lea & Febiger, Publishers, Philadelphia and New York, 1912.

This volume follows the classification of Osler and is in fact a boiled down Practice of Medicine, with all possible eliminated, but retaining the essential things. It is an epitome of the subject, for rapid review and reference.

A Text-Book of Pathology for Students of Medicine. By J. George Adami, M.A., M.D., F.R.S., Strathcona Professor of Pathology, McGill University, and John McCrae, M.D., M.R.C.P. (Lond) Illustrated with 304 Engravings and 11 colored Plates. Lea & Febiger, Philadelphia and New York, 1912. Cloth. $5.00 net.

This volume appearing so soon after Dr. Adami's two volumes "Principles of Pathology" is written to fill a decided want. Many requests were made for a suitable text-book embodying the material of the two large volumes. The authors have not merely rewritten the work in a more condensed form. They have written

almost entirely a new book which is a worthy product of their labors.

A part of a chapter is included on Pain.

The enormous mass of material accumulated during the past few years on immunity has been carefully, clearly and sufficiently handled in twenty-five pages instead of hundreds of pages as are frequently devoted to this subject.

INFANT-FEEDING. By Clifford G. Grules, A.M., M.D., Assistant Professor of Pediatrics at Rush Medical College; Attending Pediatrician to Cook County Hospital. Octavo of 295 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, $3 net.

This volume by Grulee is replete with valuable suggestions from his wide experience. The book shows close observation of symptoms, also prolonged and deep research work. The ability of the infant to digest and assimilate food in health and in sickness; the differentiation necessary to determine the individual capacity for the various classes of food; the selection of food for the individual child; the preparation and administration, all these are clearly and graphically brought out in this work. The amount to be allowed, the intervals of feeding, the dangers of over-feeding as well as under-feeding are all considered, and the arrangement is such as to make the particular diet in a given case quickly and easily found.

A very desirable book on a timely subject.

THE SURGICAL CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago. Volume I, Number 3. Octavo of 174 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Published bi-monthly. Price per year: Paper, $8; cloth, $12.

The third number of Dr. Murphy's clinics is of the same great value as the others, and even greater, for it gives the progress of a number of patients operated upon and reported in preceding numbers. This number covers a galaxy of subjects, several fractures, tuberculosis of the intestine, cystic goiter, hypernephroma, cholelithiasis, typhoid spine, etc.

THE CARE OF THE SKIN AND HAIR. By William Allen Pusey, A.M., M.D., Professor of Dermatology University of Illinois. New York and London: D. Appleton & Company, 1912.

In this little book Dr. Pusey has written what the layman of average intelligence might find useful to know about the skin and hair. The physiology, nutrition and care of the parts are carefully presented. Certain diseased conditions are necessarily mentioned, but only in a general way. The book is especially valuable as an outline of simple methods and care to promote health and physical well being. Treatment and medication are not considered—rather hygiene and what that implies. Hygiene in the barbershop is mentioned as practically impossible, and the author says one should shave himself.

ARTERIOSCLEROSIS, Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis and Treatment, with a special chapter on Blood Pressure. By Louis M. Warfield, A.B., M.D. Assistant superintendent and resident physician to Milwaukee County Hospital; assistant professor of medicine, Wisconsin College of Physicians and Surgeons, Milwaukee, Wis.; formerly medical house officer, Johns Hopkins Hospital, Baltimore, Maryland; member American Medical Association. With an introduction by W. S. Thayer, M.D., Professor of Clinical Medicine, Johns Hopkins University. Illustrated with twenty-eight engravings. St. Louis, C. V. Mosby Co., 1912. Price, $2.50.

To this author belongs the credit of according to this subject the dignity of special consideration in a monograph, the second edition of which is now ready.

The unsatisfied feeling with which one turns from the ordinary chapter on arteriosclerosis, is not felt after a careful perusal of this work. A clear picture of the arteriosclerotic process is vividly shown under Anatomy and Pathology. The changes that take place in these tubes, their elasticity, flexibility, strength, and power to sustain the pressure necessary to force circulating fluid through them, also the means of knowing this pressure, the description of reliable instruments for measuring it, with discussion of certain conditions, drugs, etc., that influence it are convincingly set forth under Physiology, Circulation and Etiology. It is a pleasure to note the stress laid upon early diagnosis, and the aids given to enable one to make it.

The following warning appears under Prophylaxis: "Men who have been athletes when young should guard against over-eating and lack of exercise as they grow old." Good, but the reviewer's observations have been that athletes do *not* grow old. It is easier to avoid excessive athletics while young, than to eat less and exercise more when old.

Valuable suggestions are given in the chapter on Arteriosclerosis in its relation to life insurance. In this field the book will be a great help.

We note the author's defense of the temperate (?) use of tobacco and spirits. Silence is golden.

The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

Vol. XI BATTLE CREEK, MICHIGAN, NOVEMBER, 1912 No. 11

ORIGINAL ARTICLES

BENIGN AND MALIGNANT OVARIAN, PAROVARIAN AND UTERINE TUMORS IN PREGNANCY, LABOR AND THE PUERPERIUM*

A. BELCHAM KEYES, M.D.

Assistant Professor of Gynecology, Rush Medical College (in affiliation with the University of Chicago); Professor of Gynecology, Chicago Policlinic; Gynecologist to the Presbyterian, Policlinic, Henrotin Memorial, Chicago Maternity, Evangelical Deaconess Hospital, and Surgeon to Cook County Hospital, Chicago; Surgeon Reserve Medical Corps, United States Army

Chicago

OVARIAN AND PAROVARIAN TUMORS

Ovarian or parovarian tumors occur once in 891 pregnancies (Fehling), once in 2,500 (Marshall), once in 1,500 (Kerr), once in 3,566 (Berlin Frauenklinick), once in 4,666 (New York) and twice in 13,000 labors (Loehlein). Both ovarian and parovarian tumors probably fortunately tend to hinder the woman becoming pregnant: (a) In a unilateral benign ovarian tumor, the other ovary being healthy, pregnancy may occur at any time (on exposure) during the reproductive period, provided the tubes and uterus be normal; (b) in bilateral benign ovarian tumors, sterility naturally results if all the Graafian follicles be destroyed, but even in the bilateral tumors some Graafian follicle containing ovarian tissue often still remains in the wall of one or both ovarian tumors near the hilus; or ovulation can occur from an accessory or supernumerary ovary if one be present; (c) in bilateral malignant ovarian tumors with abundant ascites operated by me at the Cook County and Presbyterian hospitals, serial sectioning and microscopic examination by Professor Le Count, of Rush Medical College, resulted in finding some normal follicles still present, though in one case the smallest of the solid malignant tumors was as big as the fetal head.

It is certainly difficult to say from the foregoing, why pregnancy is so comparatively infrequent. Wertheim thinks the displacement of the uterus and tubes or other concomitant pathologic change may be the cause. The ascites in malignant cases may be inhibitive; also the fact of microscopic evidence of the presence of apparently healthy Graafian follicles, is not necessarily proof of their actual capability of impregnation.

August Martin also points out the infrequence of malignant tumors as a com-

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

plication of pregnancy. Neither does pregnancy seem to dispose to malignant degeneration of the benign tumors.

Small benign ovarian tumors present during pregnancy may entirely escape notice, causing symptoms neither in pregnancy, nor in labor; nor in the puerperium; indeed, they are probably often not discovered till the pregnancy is over for many months.

Large ovarian pedunculated tumors in pregnancy usually rise out of the pelvis, or are pulled out of it (unless adherent), and cause, according to their size as pregnancy advances, an increased distention of the abdominal cavity, especially if mechanical ascites be present; also an increase of such symptoms as dyspnea, anorexia, malnutrition, constipation, urinary symptoms, edema, varicosities and difficulty of locomotion. Extra-peritoneal, or intra-peritoneal tumors if adherent, in the true pelvis give rise to early pelvic symptoms.

In pregnancy tumors usually grow more rapidly and perhaps more irregularly than in the non-pregnant (Jung). The growth due to the quiescence of the ovaries in pregnancy may not be more rapid (Loehlein).

Pedicle torsion is three times more frequent in the pregnant than in the non-pregnant (Williams), perhaps due to the growing pregnant uterus elevating the tumor early out of the true pelvis into the abdominal cavity where there is more room, and perhaps it rolls it around as it were by friction, or it turns of itself, consequent on irregularity of growth (Hofmeier).

It is estimated that about 25 per cent. of ovarian tumors encountered in pregnancy are dermoids, situated low in the pelvis, often bilaterally, prone to adhesions, infection and suppuration, and even if not suppurating, would cause peritonitis if ruptured; besides the possibility of obstruction to labor or elevation into the abdomen and torsion. Rupture of simple retention cysts and benign cystomata probably frequently occur with but slight if any symptoms in the pregnant as in the non-pregnant.

THE SUBJECTIVE SYMPTOMS AND OBJECTIVE SIGNS OF CONCOMITANT PREGNANCY AND OVARIAN TUMOR

The usual preparations of thorough evacuation of bowels and bladder should never be omitted. In early pregnancy the diagnosis of a small complicating tumor is comparatively simple. With large tumors the early pregnancy may be very difficult to detect.

The anamnesis is an important aid in deciding both the diagnosis of, and the month in pregnancy. The date of the beginning of the amenorrhea in a woman previously regular, the onset of morning sickness, the changes first noticed in the breasts of a primipara, the first active fetal movements noticed, and when the rapidity of enlargement became marked, are all very helpful in deciding the month in pregnancy. Inspection may reveal one, or perhaps two separate prominences of the anterior abdominal wall as well as the excessive size for the month of pregnancy.

Bimanually; In small tumor and early pregnancy one can frequently outline the anterolaterally, intermittently contracting uterus, and also the non-contracting small tumor usually of a different consistency. If the tumor be larger and has risen into the abdominal cavity, the uterus may be drawn so high up as to make it difficult or impossible to outline. The distended abdominal walls of large tumor cases are always difficult to depress. The pedicle of an intra-peritoneal tumor can usually be palpated up to about the third month of pregnancy. The Hegar method of a vol-

sellum attached to the cervix to lower the uterus may be of great assistance in palpation, as well as in judging the degree of interdependence of mobility. Traction would cause a wider range of motion to the uterus than to the tumor.

Palpation of the abdomen systematically in late pregnancy (in thin women with flaccid abdominal walls) may reveal the intermittently contracting uterus and, by the side of it, or above it, or partly in the pelvis, a tumor of a different consistency devoid of intermittent contractions. (An intra-abdominal ovarian tumor behind the large pregnant uterus may be entirely inaccessible to abdominal palpation, but if it is in or extends into Douglas' sac, it can often be palpated by the internal hand bimanually as in two of the writer's cases).

Percussion (patient in dorsal decubitis) outlines the larger than normal dull area (pregnant uterus and tumor like one large tumor), arising from the pelvis with the tympanitic intestines above and posteriorly. Dulness posteriorly in the lumbar region points to the presence of ascites; from mechanical causes in large benign tumors and pregnancy and peritoneal irritation in the smaller malignant tumors. Free ascites in an apparently normal pregnancy in the absence of cardiac, renal, hepatic or tubercular peritoneal disease, and in the absence of discoverable signs of tumor should always lead one to suspect the possibility of a small malignant tumor.

Auscultation should always be made for the fetal heart tones and active fetal movements, as a differentiating sign; for two tumors may simulate pregnancy and tumor, especially if amenorrhea be present in a woman under the usual climacteric age, due to the destruction of all the Graafian follicles, a case of which I was called to decide recently by one of my colleagues in the Cook County Hospital.

DIFFERENTIATION

Multiple pregnancy, hydramnion and hydatid mole, should always be thought of and excluded as a cause of a too marked enlargement of the uterus for the month in simple pregnancy; or concomitant, floating kidney or spleen, pedunculated cystic fibroma, sacto-salpinx serosa, chronic circumscribed tubercular, or peri, or parametric exudate, or old hematocele.

TREATMENT—PROPHYLACTIC

Every woman in early pregnancy should be carefully examined to decide if the pregnancy is extra- or intra-uterine; if any pelvic contraction is present; if any retroversion exists which may lead to subpromontory incarceration; if any tumor can be palpated or percussed, as well as the other and more commonly performed routine precedures.

EXPECTANT TREATMENT — TUMOR ABOVE THE BRIM

Spontaneous abortion occurred in 17.5 per cent. of the cases (not a large increase over the 8 per cent. to 15 per cent. that occur usually), perhaps due to the uterus being held in retroversion (or other cause), also immature or premature labor may occur.

If pregnancy is uninterrupted the tumor though above the brim may so change the direction of the long axis of the uterus as to hinder labor, or cause a malpresentation, or torsion, or rupture of tumor, or even rupture of uterus.

If labor should be successfully ended, the increased roominess of the abdomen due to its lessened contents again increases the danger of torsion, which occurred in 28 per cent., rupture of cystoma in 9.5 per cent., suppuration in 6 per cent., peritonitis in 3 per cent., with a mortality of 21 per cent. out of ninety-five cases collected (Patton).

Cases treated expectantly have a mortality of 10 per cent. (Marshall). The puerperal patient must be watched very carefully, and at the first untoward symptoms, do ovariotomy, or no symptoms occurring one can await involution. Marshall operated one at the third month, two at the fourth, one at five and one-half and one at seven months after labor; four of the five tumors were very adherent; all recovered.

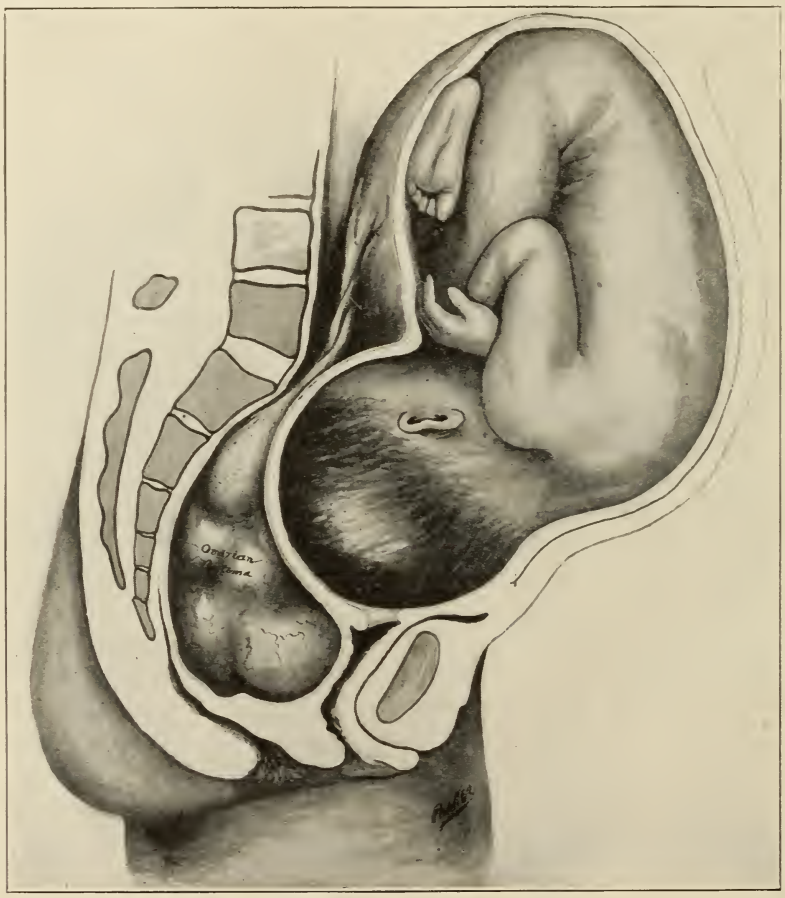


Fig. 1.—Mrs. C. F. H., aged 33. German primipara. Cesarean section. The patient has since given birth to two children by natural passages.

OPERATION IN PREGNANCY

An ovarian tumor should be removed by laparotomy irrespective of whether discovered in early pregnancy or late pregnancy. Viability may be waited for, if the patient is in a hospital and in good condition. Jung operated after premature labor had begun, and the labor was arrested and the woman went to term.

Marshall advises laparotomy and simple removal if non-adherent, if adherent and child viable cesarean section; also if the uterine musculature is only slightly injured it can be sutured; if markedly injured amputate supravaginally; if the tumor only is removed opiates should be administered freely to quiet uterine contractions and avoid premature labor. Operation on the 137 cases collected by

Marshall since 1903 gave 3.3 per cent. mortality.

The writer in one case of threatened immature labor with violent hemorrhage emptied the uterus and immediately opened the abdomen and removed the tumor with recovery.

OVARIAN TUMOR IN THE TRUE PELVIS COMPLICATING LABOR

If the pelvis is of normal or justo-major diameters and the child's head small, an ovarian tumor in the true pelvis naturally would not cause so much obstruction as where the pelvis is contracted and child's head large.

A very small or soft tumor in the true pelvis may cause obstruction to labor, or it may possibly admit of flattening or rupture by the presenting part of the child and labor be completed by natural passages. While rupture of thin-walled cysts may occur without untoward symptoms, it is never to be desired as we do not know the nature of its contents.

Large tumors in the pelvis cause complete obstruction to labor, and the child's head may be retained high above the pelvic brim as occurred in one of the writer's cases. (The woman had already been fifty-two hours in labor when he first saw the case. Cesarean section found the child dead. The cystoma was then removed from behind the term uterus. The woman has since given birth to two children by the natural passages.)

By very strong uterine contractions the cul-de-sac has gradually been stretched and the tumor expelled through the everted rectum, the prolapsed wall of which covered the tumor as it protruded through the sphincter (Bland Sutton).

Rupture of the rectal wall and expulsion of the tumor may occur.

Expectant treatment of tumor-in-cul-de-sac-labor, gives a mortality of 25 per cent. of mothers and 50 per cent. of the children.

Reposition above the pelvic brim while the patient is in the genupectoral position before the pains begin may be possible. Marshall tried it in six cases and failed in four. Traub collected sixty-one cases of reposition with a mortality of nine mothers and eight babies.

Forceps in two of Marshall's cases ruptured the tumor in one, in the other it tore the posterior vaginal fornix, pulling the tumor by friction through the rent with fatal results. This has occurred in several cases reported, after the violent *misuse of forceps* with fatal result according to Winckel.

Version practiced on four cases gave a fatality of one mother and three babies.

Puncture of cystic tumor through the posterior vaginal fornix in fifty-six cases collected by Traub, sixteen mothers and ten babies died.

After puncture Haischlein advises laparotomy within two days to entirely remove the tumor.

Vaginal coeliotomy and breaking up of the multilocular or solid tumor (morcellation) is blind work and the danger is too great. The rapidly descending head forced down by uterine contractions gets in the way and death may occur from hemorrhage or infection following the operation even though the os be dilated and the child quickly delivered by forceps.

One of the pelvic bone-widening operations might be considered in the case of small tumors in the absence of facilities for a more extensive operation.

In all cases of tumor complicating labor the number of internal examinations and manipulations should be limited for fear of serious or even fatal infection.

The median abdominal oöphorectomy saved all the mothers and lost only one child (Traub). It may be impossible to

remove a tumor, though non-adherent, from behind the uterus while the child is still in it, as it was in one of the author's term cases. The advice to wait till the first stage of labor is completed, then laparotomise and remove the tumor and allow labor to proceed by natural passages is quixotic.

Lastly, the presence of free ascites or other sign of malignancy, even without proof of tumor, demands laparotomy in any stage of pregnancy, without delay.

FIBROMYOMA UTERI IN PREGNANCY

The fact that fibromata apparently occur but rarely before puberty and occasionally atrophy at the menopause is suggestive of a close relation to ovulation and the conception function of the uterus, especially the latter, in which the musculature of the pregnant uterus undergoes hypertrophy and hyperplasia in the first half of pregnancy, intra-uterine as well as (if to a less degree) extra-uterine; indeed,

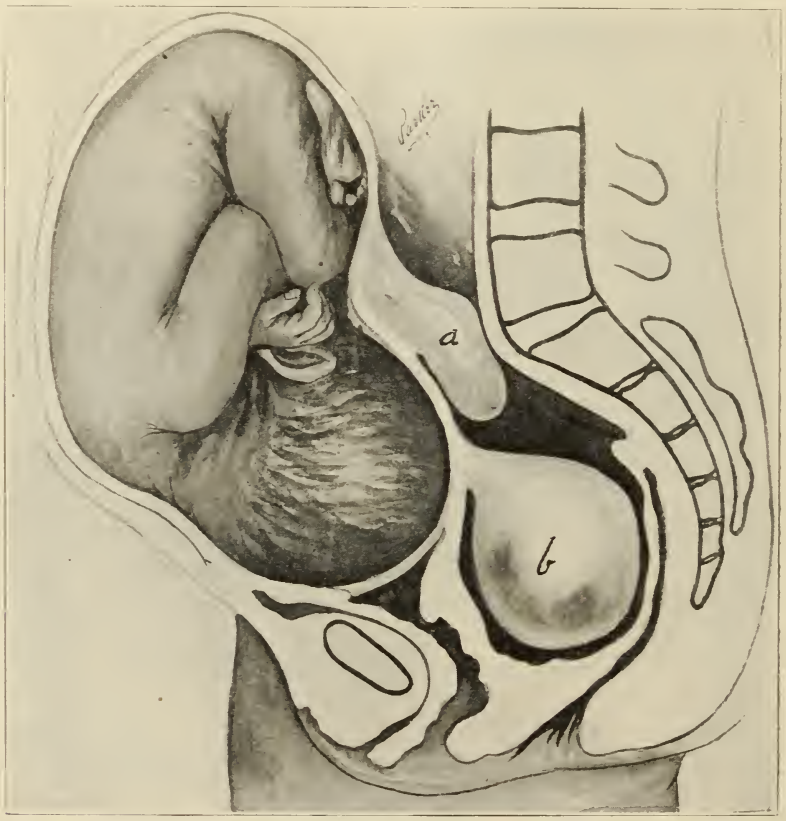


Fig. 2.—Fibromata at term. The sessile fibroma (a) from the mid-corpus might be retracted or perhaps displaced manually above the promontory. The pedunculated fibroma (b) hanging in Douglas sac would though very much smaller than in the picture form an insurmountable obstacle to labor.

Cesarean section and then oöphorectomy, i. e., after removal of the child and afterbirth and suturing the uterus, then the removal of the tumor can be done. The patient reported by the writer[1] has since given birth to a child by the natural passages.

1. Jour. Am. Med. Assn., February, 1909.

fibromyomata might almost be considered as an atypically localized hyperplasia of the uterine wall, the exciting cause of which is unknown.

Clinical observation shows the need of a thorough understanding of the behavior of fibromyomata uteri during the act of reproduction, especially as they are most frequently encountered clinically (28 per cent.) between the thirtieth and fortieth year, and Moeller found 4.3 per cent. of all the women examined had fibromata. Engstrom found in the virgin one fibroma to four in the non-virginal; Schroeder estimated the married at 78 per cent. and the unmarried at 22 per cent., and Fehling two married to every one unmarried.

Prolificacy appears usual, 70 per cent. had borne children before the development of the tumor, or at least before the diagnosis, the average being 3.2 children for each.

Sterility occurred in only 24 per cent. of the married fibroid patients, mostly among the well-to-do. Doubtless their knowledge how to prevent conception, or to cause early abortion played a part. This is not a large increase, considering that 8 to 15 per cent. of all married women are sterile (Doederlein), or at least do not become pregnant, partly, perhaps, due to sterility of the male sex.

The consideration separately of each kind, intramural, subserous and submucous corpus fibromata during pregnancy is now in order. Though the possibility of tumors of all three kinds being present in any case should be carefully borne in mind. Fibromata are situated in the corpus in 90 per cent. and in the cervix in 10 per cent. of the cases.

Intramural or interstitial (65 per cent.) corpus fibromata deep in the wall of the uterus might not hinder the occurrence of intra-uterine pregnancy, but those situated near the mucosa might by the changes usually present in the endometrium, especially over the region of the tumor, naturally be considered as predisposing to sterility, both from the changed mucosa being little adapted to the lodgment of the impregnated ovum, and the hemorrhage (menorrhagia and metrorrhagia) so common in these cases.

If abortion is liable to take place in some, the pregnancy may yet in others persist to near or full term, in which case the mucosa over the intramural tumor often being thinned, and having few or no glands, and but little interglandular tissue, there is very little substance for decidua formation.

The chorionic villi may be poorly developed, and the placenta be very thin over the tumor, and though thicker over the normal mucosa must in consequence cover a wider area, to secure adequate circulation for the fetus, consequently placenta prævia is always possible.

The poor circulation caused by the poorly developed placenta may be the cause of the poor development or death of the fetus in pregnancy, in some of the cases perhaps erroneously attributed to syphilis. The hypertrophy and hyperplasia of the fibromatous pregnant uterus may take place unevenly, there being but little development of the part of the uterine wall in which the fibromata lie. The tumor may also hold the developing pregnant uterus in retroflexion till it becomes incarcerated in the pelvis under the sacral promontory, especially if adhesions be present.

During labor a high situated fibromatous portion of the intramural fibromatous uterus, not being able to contract evenly (due to its poor hypertrophy and hyperplasia) as much as the non-fibromatous portion, premature (antepartum) separation of the placenta may result. The labor is also liable to be slow. Indeed, Pinard

gives fibroma as a reason for some of the very slow labors in old primiparæ.

If the intramural corpus fibroma be low down, the shape of the uterine cavity at term may be so changed that malpresentations and prolapse of the cord, or extremities can occur; indeed, if the tumor be very low in the corpus, obstruction to labor can occur; or, if the low intramural fibroma be loose in its bed and near the mucosa, it may be dislodged and expelled and the child follow; or in higher myomata the child be born first and then the tumor.

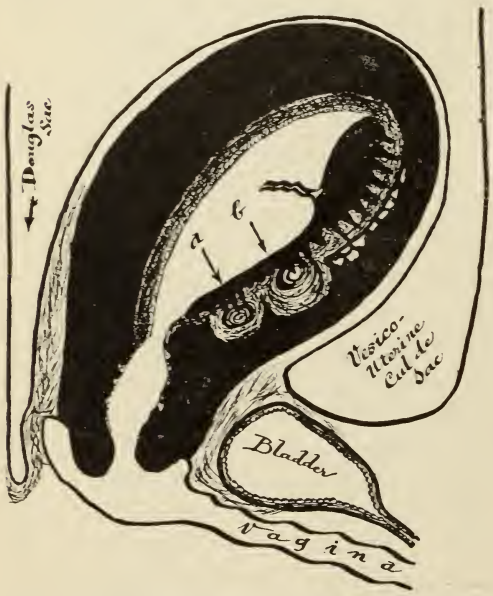


Fig. 3.—Fibromata under placenta: *a*, *b*, thinning and spreading of placenta over wider area, often prævia and adherent.

Adherent placenta is very liable to occur if it lies over the myomatous area, the villi in some cases even having penetrated the tumor itself, making even manual removal of the placenta difficult. An interesting case of this kind recently occurred in the practice of Dr. George de Tarnowsky, of Chicago. Tumors have been expelled with the placenta still attached. Inversion of the fibromatous uterus may also occur.

Postpartum hemorrhage due to the lack of power of the fibromatous placental site of the uterus to retract well after expulsion of the placenta, is common and sometimes fatal.

Involution is slow; myomata may centrally become pappy or even necrotic and be expelled during the puerperium, a dangerous occurrence. Lochiometra and puerperal infection are common.

THE CHANGES IN THE FIBROMA ITSELF DURING PREGNANCY

During the first half of pregnancy intramural fibromata of the uterus sometimes increase in size very rapidly, due perhaps less to an actual true growth or degeneration process than to an edematous softening.

Cameron saw a hen's-egg-size uterine fibroma, that in the first five months of pregnancy became so large that the pregnant uterus and fibroma together were as large as a pregnant uterus at term. Fibroids usually, however, do not grow unduly rapidly during pregnancy.

Necrosis of fibroids in pregnancy is common. Fromme first pointed out the occurrence of necrosis in 1886 in a child's head sized interstitial fibroma in pregnancy in a 42-year-old duipara, who had a sudden onset of peritonitis. The patient recovered after operation. Mackenrodt in the following year also published cases. Ihm calls attention to the necessity of not confusing "pappy softening with necrosis," and that real necrosis is not so rare, yet as good an authority as Winter, in 1904, stated that the better circulation in pregnancy, renders necrosis less liable. Ihm collected the cases published in the last ten years which absolutely confirm the fact that softening and degeneration and necrosis are frequent and quotes Oleshausen in confirmation.

There occurred in Ihm's collection of fifty-seven cases: discoloration, three; fatty degeneration, five; softening and cystic softening, central red softening and hemorrhagic necrosis, thirty-one; necrosis, twelve; mortification, one; gangrene, one, and suppuration, one.

The ages of the pregnant women with degenerated and necrotic fibromata were: seven between 20 and 30; twenty-eight between 30 and 40, and over 40 years of age, ten. In twenty-three of the women in the first, nine in the second, three in the third, and one each in the fourth, fifth, sixth and tenth pregnancies.

The symptoms ranged from rapid distention and dyspnea, and pain often of a colicy character, occasionally with hemorrhage from the uterus, ischuria, difficult locomotion and edema of the lower extremities to vomiting and peritonitis.

It is to be deplored that in forty-two cases no microscopic examination was made for sarcomatous degeneration. The subserous form about 25 per cent. of all corpus fibromata.

Pregnancy in a uterus with subperitoneal (subserous) fibromata of small size can easily, so far as any influence on the uterine mucosa is concerned, occur. Small subserous fibromata are probably frequently present all through pregnancy and labor without being suspected. Larger subserous fibromata may cause displacement of the uterus, stenosis or atresia of the Fallopian tubes, and hindrance of the ascent of spermatozoa and sterility. If impregnation of the ovum does occur, it is conceivable that interference with a normal migration through the displaced or narrowed tubes and extra-uterine tubal pregnancy might result.

If intra-uterine pregnancy does occur in a subserous fibromatous uterus, torsion of the fibroma (as pregnancy advances and the uterus enlarges) can occur if the fibroma pedicle be thin, or torsion of the whole pregnant uterus if it be thick.

In labor in rare cases the uterus may be held high up by adhesions and remain so even after labor is over, interfering with retraction and allowing grave or fatal postpartum hemorrhage.

The tumor may descend into the cul-desac of Douglas and arrest labor temporarily. If the pelvis be of full size and child's head small and tumor very small it may undergo softening and flattening, or if not too low, by retracting above the pelvic brim, allow the child to pass, or it may remain in the pelvis and being too large arrest labor permanently.

It takes but a comparatively small-sized fibroma below the brim to make a complete obstruction.

In submucous tumors (which form only about 11 per cent. of the corpus fibromata cases) pregnancy might be expected (considering the hemorrhage) to be less frequent in the uterus, yet one frequently finds early pregnancy, or at least signs of its having existed in the removed uterus. This has been experienced many times microscopically in the Gynecologic Laboratory of Rush Medical College. The remarks already made under the heading of intramural fibroma in pregnancy also apply here if the pregnancy continues any length of time.

In the puerperium a fatty degeneration of the fibroma uteri may occasionally occur, or indeed a puerperal involution in both the puerperal uterus and the fibroma.

This may occur to such an extent that only a pap-filled capsule of the original tumor remains. A fibroma may even entirely disappear after labor is over (Hofmeier).

In a woman of 35, laparotomised for fibroid during my assistantship to the late Dr. Henrotin, we found the fibroid as diagnosed, but closed the abdomen again

as the woman was also pregnant. The case went to term, the tumor was not discoverable bimanually six months after labor.

SYMPTOMS OF PREGNANCY AND FIBROMA

Early pregnancy is often found to be present in cases where it was entirely unsuspected before the operation.

Amenorrhea in a woman previously regular with a known subserous or deep intramural uterine tumor, and lessening of the hemorrhage (menorrhagia or metrorrhagia) in a woman with a superficial intramural or submucous uterine fibroma, together with the rapid increase in size of the uterus — more rapid than in either simple tumor or simple pregnancy points to concomitant tumor. The breast signs, e. g., areolæ and the enlargement of Montgomery's glands and the secretion of colustrium in primiparæ are of value. The morning sickness is a symptom of value in both primiparæ and multiparæ. Souffles, like the placental souffle, are heard frequently over cavernous fibromata and, therefore, are of no value as a sign of pregnancy, also Jacquenmin's slaty color of the vaginal mucosa may be from fibromata alone.

The Hegar sign may be present if the fibromata are in the fundus, but not if the fibromata are intimately and diffusely united with the lower segment of the uterus, or large multiple and irregular in shape, and surround the uterus so that the healthy uterine wall is inaccessible both to the internal and external fingers.

Intermittent uterine contractions of Hicks on palpation may be appreciable in the tumor-free part of the uterine wall.

Softening of the cervix is an especially valuable sign of co-existing pregnancy, but even this may occur with fibroma uteri alone.

Auscultation should never be omitted.

In abortion, immature or term labor, the expulsion of a superficial intramural or submucous fibroma before the birth of the child can easily be mistaken for the child's head. The Roentgen ray might be of some service in diagnosing pregnancy in the later months, and even the tumor if calcification larger than three kernels of wheat be present, according to Dr. Hollis Potter, of the *x*-ray laboratory of the Presbyterian Hospital.

Judging from Cameron's case, a rapidly growing fibromatous pregnant uterus if retained in the true pelvis, as it enlarged might about the second month compress the rectum, bladder, ureters and iliac vessels, causing varicosities and edema of the lower extremities, or possibly hold the uterus in retroversion, or retroflexion, with the equally early bladder symptoms of retention like those of the simple incarcerated retroflexed gravid uterus which usually does not occur till near the fourth month of pregnancy.

A pregnant uterus with a large high corpus or fundus fibroma that rose early into the abdominal cavity, might in the second half of pregnancy, markedly distend the abdominal cavity, and pushing upward the intestines and subdiaphragmatic organs, interfere with the descent of the diaphragm, cause dyspnea, crowd the intestines, interfere with digestion and nutrition, possibly cause ascites and enlargement of the lateral abdominal veins, edema of the extremities and the whole train of symptoms, much as would a very large intra-abdominal ovarian tumor alone.

Lastly it is the experience of every operator to occasionally be less sure with the abdomen open whether he has a simple pregnancy, pregnancy with fibroid, or simple fibroid. The writer has seen operators close the abdomen and wait develop-

ment, and months later when quite satisfied of the diagnosis of the non-pregnant condition, remove the tumor.

Cervix fibromata fortunately are more rare (10 per cent.), as they being below the child's presenting part, are liable to cause much trouble in pregnany due to ureter pressure and general intra-pelvic pressure if large. In labor the tumor-free portion may not be sufficient to dilate and labor may come to a standstill, or the tumor may obstruct the passages, hinder engagement and cause malpresentation, deflexion of head, or prolapse of cord, or extremities.

A very small fibroid of the cervix might become flattened and allow the child to pass, or if the labor pains are strong and the tumor only slightly under the mucosa or pedunculated, it may be forced out of its bed and expelled before the fetal presenting part.

TREATMENT OF FIBROID IN PREGNANCY

The treatment of fibromata suggests itself from the foregoing. In cases where there are no symptoms, and only a very small subserous or intramural tumor apparently devoid of complications in a young non-pregnant woman very desirous of bearing children, a myomectomy should be advised. There is always a possibility of these women becoming pregnant, and going to term with the spontaneous completion of labor. Fibroid cases becoming pregnant should always be in a hospital and under competent gynecologic supervision.

Despite opinion to the contrary, large tumor cases often unexpectedly terminate the labor spontaneously, indeed, with the labor over and the often adherent afterbirth delivered there is still the great danger of post-partum hemorrhage and infection. To operate after running the gauntlet of these, when one could have done so more safely in the first place is poor management.

Operation and removal of the large tumor should be performed irrespective of the month of pregnancy, yet under competent supervision we may allow the woman some privilege of election, especially when near viability.

In Ihm's cases laparotomy and enucleation followed by abortion was performed in six cases (one dying of fatal hemorrhage); supra-vaginal amputation in eleven cases; hysterectomy total in seven cases; enucleation and patient went to term in nine cases; pedunculated tumors removed in five cases; cesarean section and then total extirpation in two cases; porro in two cases; cervical cesarean in one case.

In one of the writer's cases at the Presbyterian Hospital despite the usual treatment the woman continued with high fever after immature labor. Removal of the uterus and tumor by the abdominal route resulted in uninterrupted recovery.

CARCINOMA UTERI IN PREGNANCY

Carcinoma of the corpus uteri in pregnancy is comparatively rare, because carcinoma here is less frequent, viz., in only about 10 per cent. of the cases, and occurs usually years after the climacteric—average age 55 years.

If before the menopause, the general weakening of the whole organism of the woman, and the local carcinomatous changes in the corpus endometrium, apparently have an inhibitory influence.

If the corpus carcinoma involves the whole endometrium total sterility as a result would naturally be expected.

If the endometric carcinoma focus is still small and conception does occur on the still healthy portion of the endometrium, the pregnancy usually only lasts one or two months. The cases that continue

longer than this are questionable (Sarvey and Theilhaber).

CARCINOMA IN THE ENDO-CERVIX AND PORTIO-VAGINALIS IN PREGNANCY

Carcinomata of the cervix and portio compose about 90 per cent. of the cases, and if most frequent near or at the climacteric (at an average age of 47 and 42 years, respectively), it is yet common in the early thirties. That a woman already has a carcinoma of the cervix and then becomes pregnant is considered probably the more frequent. In such cases there is usually a well-developed carcinoma present in early pregnancy. If the pregnancy is far advanced and the carcinoma of the cervix is very small, the natural inference is that the carcinoma probably developed during pregnancy.

The endocervical and portio carcinomata probably both hinder the ascent of spermatozoa by the carcinomatous discharge, and the endocervical carcinoma also by destruction of the arbor vitæ, but neither hinder conception within the corpus uteri if impregnation of an ovum occur.

Carcinoma cervicis occurs in 1-2,000 pregnancies (Winckel), 1-2,547 pregnancies (Stratz), 1-4,500 pregnancies, Sutugin), 1-714 pregnancies (Sarvey).

Pregnancy occurred in patients suffering from carcinoma cervicis six times in 600 carcinoma cervicis cases (Wertheim), 5.17 per cent. (Orthmann), 1.74 per cent. (Glochner).

The four points to consider are the influence of pregnancy on the cervical carcinoma, the influence of the carcinoma on pregnancy, the influence of the carcinoma on labor and the influence of labor on the carcinoma.

The prognosis of carcinoma uteri, whether of the corpus or of the cervix, is rendered much worse by the pregnancy. It spreads much more rapidly in depth and width of infiltration than in the non-pregnant uterus, because of the hyperplasia of pregnancy, the consequently greater blood-supply, the increased development of the lymph vessels and increased looseness of the intermuscular and parametric spaces by which the carcinoma cells metastase.

Carcinomatous metastases of the iliac, retroperitoneal glands (that drain the cervix and upper third of the vagina), as well as the paracervix-metric cellular tissue is also probably very early indeed in these cases.

The influence of the cervical carcinoma on the course of pregnancy is usually such that abortion or premature labor occurs,

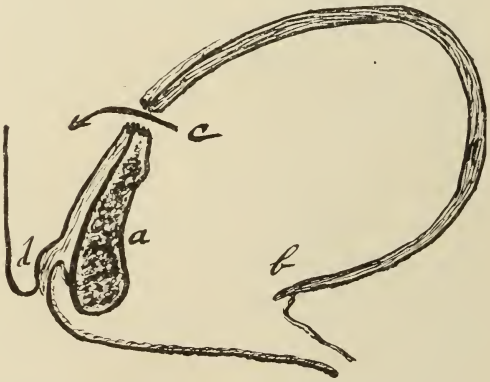


Fig. 4.—Schematic: *a*, carcinomatous; *b*, non-carcinomatous; portion of cervix; *c*, rupture place; *d*, Douglas sac.

due perhaps to an early invasion of the corpus endometrium, interfering with the formation of the decidua and placentation. Abortion occurs in 8 per cent. (Beckmann), 23-33 per cent. (Pinard and Grimond), 30-40 per cent. (Cohnstein) and 12½ per cent. (Hegar). The hypertrophy, hyperplasia and dilatability of the uterus are probably also interfered with.

The woman may go to near or to term. Theilhaber and some others contend that abortion is not more frequent than usual, Winckel advises in early pregnancy if the case is still operable, to only think of the

woman and remove both the uterus and fetus at once; this has been done in pregnancy up to the fifth month, per vaginum. After the fifth month, empty the uterus first and later, if operable, do hysterectomy. If near viability (twenty-eighth week) and the cervix carcinoma be very slight in extent, the mother may elect to wait till the child is viable, when premature labor may be induced.

RIGIDITY OF THE INFILTRATED CARCINOMATOUS CERVIX

After viability, the nearer to term the more is the dystocia increased, the corpus musculature has more work and may be too crippled from carcinomatous infiltra-

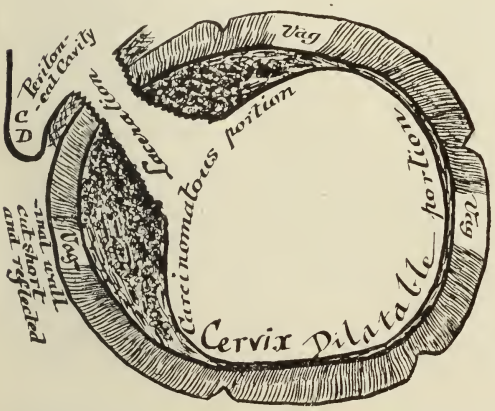


Fig. 5.—Schematic. Tear of carcinomatous cervix duringlabor.

tion to overcome the rigidity of the cervix. Cervices apparently with but slight local carcinoma infiltration may be extremely slow (seven to nineteen days) in dilating and tear deeply into the parametrium with profuse hemorrhage or indeed into the peritoneal (culdesac of Douglas) cavity. Extensive carcinomatous infiltration of the cervix renders premature, or term delivery impossible. In one case of missed labor the child (dead) *in utero* was carried eleven months, in another seventeen and one-half months, and in still another labor continued for one month and the woman died undelivered. Rupture of the uterus occurred six times in sixty, and eleven times in 180 cases. Death of the mother before the birth of the child occurred to six mothers in 165, nineteen mothers in 126 cases and thirteen mothers in 130 in the cases collected in the literature. Death of the child before birth is common.

The uterine contractions in abortion and labor also favor the more rapid dissemination of carcinoma cells along the lymphatics and connective tissue spaces. Yet Graefe and Spencer report a favorable change in the carcinoma. Graefe's case became pregnant a second time and yet was alive three and one-half years after the diagnosis.

Even if delivered successfully and the patient survives the hemorrhage, septic uterine infection, embolism and possible peritonitis, the carcinoma may grow very rapidly during the puerperium.

TREATMENT OF PREMATURE OR TERM LABOR

Expectant with spontaneous delivery, or by the aid of forceps, 14 to 57 per cent. of mothers and 20 to 70 per cent. of the babies died.

Vaginal cesarean section was done by Beckmann, and then radical removal of the uterus with recovery. In thirty-two cases collected, including his own, maternal mortality 6.2 per cent., fourteen viable children all saved.

Abdominal cesarean section followed by the radical abdominal operation; in forty-two cases, maternal mortality 6.97 per cent., all children saved. The chances for the child are infinitely better by this operation.

The results of the vaginal operations in fourteen cases: one was still symptomat-

ically carcinoma-free at eleven months; one at one year; one at one and one-third years; one at one and one-half years; one at four and three-fourths years, and two at two and one-half years after the radical operation. In seven the carcinoma symptoms returned in from five to fifteen months.

The results of the abdominal operation in twelve of the cases which were traced were symptomatically carcinoma-free: one at one and one-sixth; two at two and one-half, and four at four and five years, respectively, after the operation. The return of symptoms occurred in four after four and one-third years, and in one in two and one-half years.

GYNECOLOGICAL HINTS

Waldo—International Journal of Surgery

It is a bad practice to give purgatives a day or two before performing a laparotomy. If you do, the patient is apt to suffer severely from gas pains for several days following the operation, and an evacuation from the bowels is difficult to obtain. If the operation is to be performed in the morning, a simple enema should be given the night before, and if during the afternoon, this should be done the same morning.

As soon as a patient has been put to bed after a laparotomy an enema of one pint of hot water (110 F.) containing one ounce of whiskey should be administered. This hastens reaction and prevents the severe thirst that is so apt to follow laparotomies. Hot saline is not absorbed as rapidly as hot sterile water and should not be used.

If a patient is thirsty after a laparotomy small quantities of water, hot or cold, should be given at short intervals. I usually instruct the nurse to let the patient have all the water she wants in teaspoonful amounts. If a large quantity of water is given at a time, it is apt to cause vomiting. On the other hand, a small quantity at frequent intervals will frequently arrest nausea and vomiting.

Severe vomiting with possibly acute gastric dilatation will be very much relieved by washing out the stomach. In fact this procedure will save many a life.

The too free use of cathartics following a laparotomy usually does more harm than good. A simple enema once or twice a day is usually all that is necessary.

A rectal tube inserted four or five inches once in two hours, and allowed to remain twenty minutes each time, will frequently allow the gas to escape and stimulate peristaltic action.

The secretary of the Texas State Board of Health, R. B. Babcock, has under way work, the result of which is expected to be far-reaching and productive of great good to the present as well as the future generations of Texans. This work, which is being carried on with and by the full consent of the State Board of Health, consists in mailing out letters to about 30,000 parents of boys of the age of twelve years throughout the state, to be followed by a copy of the August Bulletin of the State Board of Health, whose feature story is a reproduction of "Boys' Venereal Peril Pamphlet No. 1," issued by the American Health Association. This article was decided on after much careful reading and painstaking search. It will be found to contain facts, briefly stated, and in plain understandable language, and comes directly to the point. It neither moralizes nor lectures, but states important truths and scientific facts without mitigation.—*Lancet-Clinic.*

RELATION OF ANAPHYLAXIS TO THE INFECTIOUS DISEASES

After small-pox, typhoid fever and tuberculosis, the immunity secured is always specific; it protects against the one disease and no other. For some years I have recommended and practiced vaccination of the uninfected members of families in which one or more cases of tuberculosis are developed. The non-poisonous residue of the tubercle bacillus supplies a perfectly safe and efficient vaccine, and in my opinion it should be generally used. With vaccination and other means now employed, I feel confident that success will crown the efforts to eradicate this disease. The most hopeful outlook for the control of cancer lies along the direction of anaphylactic study and treatment.—Vaughan, *Journal A. M. A.*, Sept. 28, 1912.

APHASIA*

CHARLES W. HITCHCOCK, M.D.
Detroit

Speech being that faculty possessed by man by which he most largely establishes relations with his environment, its integrity becomes at once a matter of the highest importance, and its pathology a subject of corresponding interest.

Early investigators naturally failed to recognize its complexity, and the early efforts to definitely locate this faculty in one exact center display much reasoning from insufficient premises. In 1825,[1] Bouillaud, who had collected a number of cases of disease of the frontal lobes, which had exhibited affection of speech, affirmed that here was its center. In 1836, Dr. Marc Dax went further in his observation on the frequency of the loss of speech in cases involving right hemiplegia, and affirmed that this justified his view that its seat was in the left cerebral hemisphere. But in 1861, Broca took a still more advanced position, clearly defining the seat of the lesion in aphasic cases as the posterior portion of the third left frontal convolution. His view was by no means complacently acquiesced in, but in spite of criticism and frequent assault, with the passage of the years a mass of clinical experience accumulated which went far to confirm his views and to establish Broca's center, as it came to be called, as a most important area, the integrity of which was vital to an unimpaired speech. Other centers were later claimed to be involved in some lesions of speech, the better thus to express some clinical forms of aphasia,[2] and its better analysis was furthered by the work of Meynert, who concluded, from anatomical investigations, that the cerebrum may be divided into two large areas, the anterior of motor, and the posterior of sensory importance.

In 1874, Wernicke discussed at length "The Aphasic Symptom Complex," minutely explaining Meynert's theories,[3] and especially applying them to human speech. He believed that in Broca's convolution we possess a motor speech-center, and that the sensory speech-center is situated in the first temporal convolution, and its association tracts. Sensory aphasia was soon accepted as a definite clinical picture, and its localization as the first temporal convolution with the adjacent parts of the second temporal gyrus. Déjérine later added a third center occupying the region of the angular gyrus, the center for optical memory-pictures of words. Trousseau, Hughlings Jackson, Bastian and Kussmaul also deserve mention as having added especially valuable contributions to the literature of the subject.

The last word of controversy is not yet, and of late years Pierre Marie has added no little to the heat of the discussion, his chief contention being that the left third frontal (Broca's) convolution, has nothing to do with the function of speech,[4] and he especially emphasizes the mental deficit, present in more or less degree in the aphasias, which he thinks has by some been rather fantastically interpreted into

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

1. Bastian: The Brain as an Organ of Mind, 1880.

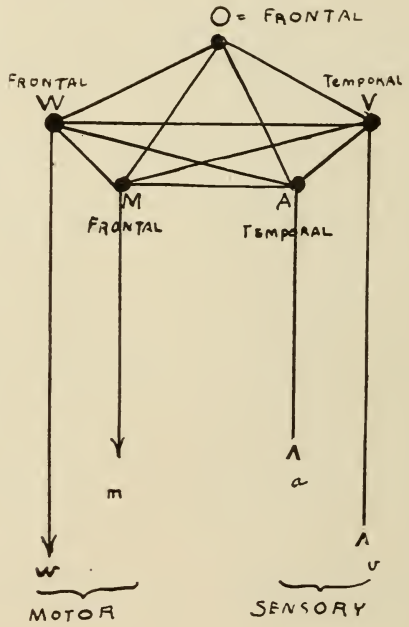
2. Bastain: Paralysis, Cerebral, Bulbar and Spinal, 1886.

3. Wernicke in Modern Clinical Medicine, 1911.

4. Strümpell: Text-Book of Medicine, 1911.

ill-founded varieties lacking confirmation in clinical experience. The majority of authorities, it should be said, do not accept Marie's views,[5] and Broca's convolution is still accepted as the motor speech-center. Liepmann, of Berlin, one of the most enthusiastic workers of the present day in this field, accepts, as embraced in the region of speech, the centers already referred to in the frontal, temporal and parietal lobes, motor and sensory (optic and visual) centers, as well as the higher mental centers which have to do with the comprehension of speech, the location of which is supposed to be somewhere in the frontal convolutions.

These centers, then, and their connecting pathways,[6] the association tracts, constitute the nervous apparatus essential to normal speech, lesions of which are concerned in its total or partial dissolution. The sensory apparatus will, of course, include all those sensory pathways by which the brain receives percepts, there to be elaborated into verbally expressed concepts, and while myotactic, olfactory and gustatory aphasias are sometimes spoken of, it is so largely by way of the ear and eye that we receive our commonest and most important impressions that the auditory and visual centers are justly regarded as the most important centers here involved. On the motor side, the ability to use and the power to coordinate the muscles of speech and the organs involved, larynx, lips, tongue, cheeks, teeth, etc., are essential.[7] While the intellectual factor depends on the integrity of various associational pathways, the fact that sometimes speech, practically automatic and apparently involving association tracts, takes place without any apparent real mental element, lends color to the argument for a separate intellectual center. Intelligent speech, then, requires the power to think or form an idea, the ability to call up word memories essential to properly clothe in words the ideas so formed, and the ability to comprehensibly articulate the sounds necessary for the expression of these ideas. The apparatus and pathways commonly involved in integral speech have been variously diagrammed for purposes of analysis and study. Grasset[8] makes use of the accompanying scheme as useful:



Here O serves to represent the intellectual center, ideation, comprehension, the higher center, if you please; $W =$ the center for graphic images, written symbols; $w =$ the hand as the motor apparatus involved in writing; $M =$ the center for motor-images of words, and $m =$ the organs of speech. $A =$ center for auditory symbols, and $a =$ the ear, auditory apparatus. $V =$ center for visual symbols; $v =$ the eye, visual apparatus.

5. Hammond: Am. Jour. Insan., 1912.

6. Jelliffe: Article on Defects of Speech.

7. Ballet et Laignel-Lavastine in Semeiologie Nerveuse, 1911.

8. Grasset: Les Centres Nerveux, 1905.

Let it not be thought that this diagram is wholly theoretical and fanciful, for all of its centers save one, that for ideation, have been clinically demonstrated, as also have been their connecting pathways. None of us doubts the existence of that intangible entity known as mind, but the most acute student cannot as yet demonstrate its exact habitat. So with this ideational center, though it cannot be exactly located, the reality of such an area is universally conceded by the best students,[9] and its postulation is helpful to the best working theory of speech and its location.

It is obvious that from *a* and *v*, auditory and visual impressions find their way to *A* and *V*, the auditory and visual centers. If the mind, the higher center, takes cognizance of such impressions, they reach *O* over the connecting pathways *A O* and *V O*, and if their interpretation impels any manifestation in graphic or audible speech, the outgoing impulse will proceed over the pathway *O W w* or *O M m*. Interruption of any of these pathways or impairment of any of these centers, will obviously prevent or affect normal speech, and so give rise to some variety of aphasia. It is further conceivable that the sensory impressions may be so common and its passage over the sensory pathways so easy as to be almost automatic, so that the mind, the higher center, is scarcely needed for their interpretation. In such case, it seems quite within the range of probability that the sensory impulses reaching the auditory and visual centers may pass over the associational tracts, provoking the common motor manifestation, and this, without reference to the higher center. That there may be the most perfect coordinating of the centers involved, it will be apparent that the importance of these associational pathways is very great. The foregoing is, indeed, quite analogous to the spinal reflex arc, where, as in the knee-jerk, the sensory stimulus readily evokes the motor response, without reference to cerebral centers. It need hardly be said, of course, that these centers are not delimited by hard and fast lines, that they doubtless somewhat overlap and are of different extents in different subjects.

From these considerations, we shall pass easily to the varieties of aphasia. In the main, of course, they will be either sensory or motor. The term "cortical" will be naturally applied to those aphasias involving a lesion of the centers themselves, and these will be either motor or sensory. Similarly the term "subcortical" will be applied to lesions involving tracts leading to or from either motor or sensory centers, associational tracts, and the term "transcortical" has been applied to lesions involving the tracts to and from the higher centers. The cortical forms are commonly referred to as "sensory" and "motor," and the subcortical forms are often mentioned as "pure sensory" and "pure motor" aphasias. The associated aphasias are well spoken of as "conduction aphasias."

Liepmann,[10] in a recent article, discusses (1) complete motor, (2) complete sensory, (3) total, (4) insular, (5) mutism, pure motor (Wernicke's subcortical motor aphasia), (6) pure word deafness and (7) transcortical aphasia.

In complete motor aphasia, the frontal speech region is involved, the posterior two-thirds of the lower frontal convolution, Broca's center, and this entails a loss of motor word-composition. Patients so afflicted understand what is said to them, but they lack the motor mental picture essential to motor speech, and are consequently mute. Here that anomaly is often seen of the retention of a word or phrase, possibly vulgar or profane, and as

9. Collins: The Faculty of Speech. 1898.

10. Liepmann in Curschmann's Nerven-Krankheiten, 1911.

it represents the extent of their possible speech, its use is often grotesquely inappropriate. One would hardly expect written speech to be interfered with, yet so closely dependent is writing on the ability to speak that it, too, is greatly disturbed, and spontaneous writing usually abolished, though these patients may be able to copy writing.

In the complete sensory aphasia, the temporal region is involved, the especial center for auditory word-memories. The memory of word-sounds is therefore faulty and word-deafness the chief symptom. Sounds are heard, but their wording not comprehended nor the meaning. The acoustic component plays an important rôle in speech, and through the damage of this element speech is impaired, not abolished, as in motor aphasia; but there are many slips — word, syllable and letter changes, a paraphasic condition. Words may be akin in meaning or sound to the desired word; there may be no difficulty in pronouncing words or syllables, but they are jumbled together in an incomprehensible sentence. The sensory aphasic is prone to be talkative, takes no heed of the fact that he cannot be understood, and the mental element here, of course, is more in evidence, for proper auditory interpretation cannot be passed along to the higher center. The motor aphasic, in contrast, is painfully conscious of his defect and dislikes and endeavors to avoid the effort to speak. With the sensory aphasic there may be alexia or dyslexia, for the intimate comprehension of reading aloud is wanting. Because of the word-memory defect, writing is abolished or interfered with, though the ability to copy may be retained. The comprehension of reading is much disturbed.

The speech-region being supplied by branches of the middle cerebral artery, we may have a less limited lesion involving more of the blood-supply, and so affecting both the frontal and temporal region, and producing a total or nearly total aphasia. More frequently, here, sublying rather than cortical regions are involved. Both the acoustic and motor centers being involved, writing and reading are badly done, if at all.

Closely allied to motor aphasia are lesions of the insular region, just between the frontal and temporal regions, which greatly disturb expressive speech. If lying below the cortex, they may interrupt important connecting fibers and so dissociate the auditory and motor centers.

The so-called pure motor aphasia, the result of a subcortical lesion, shuts off vocal speech, blocking the outflow of impulses from the motor centers. Here internal speech (the intellectual conception) is retained, but its motor expression prevented, a mutism resulting. The similar sensory variety blocking off the impulses to the auditory center, gives rise to pure word-deafness. Here the sounds may be heard, but are not interpreted and so not understood. Speaking, reading and writing are retained, but understanding and so imitative speech and writing from dictation are abolished. This is pure word-deafness. Similarly, too, if the outflow of visual impulses to higher centers be blocked, word-blindness results, visual word-memories not being transmitted to the higher centers, and so the words seen meaning nothing, thus alexia results.

By the transcortical aphasias, Wernicke understands aphasias in which the motor and sensory centers themselves and their connecting tracts are intact, as also the connections with the periphery, but one of these centers is blocked off from the higher, comprehension center. The transcortical sensory aphasia is also in effect a transcortical motor aphasia, since spontaneous speech is much interfered with.

Vocal speech is repeated in a parrot-like way, but without a clear comprehension of its meaning. In transcortical motor aphasia, however clearly the auditory word-memories may be received and interpreted, the outgoing motor impulses being totally or partially blocked, speech is *nil* or badly executed.

If the sensory speech (auditory) center be lightly injured or partially blocked, an amnesic aphasia may result, while perception of vocal speech and its meaning is retained. Lesions, of course, are rarely sharply limited. Written speech is usually affected in both chief forms of aphasia. Reading is much involved in the sensory and less in the motor form. Lesions behind the sensory speech center, in the angular gyrus, are apt to entail agraphia and alexia, and therewith a condition of paraphasia and disturbed vocabulary.

The agnostic disturbances, though they can barely be mentioned here, are interesting: acoustic from a left temporal lesion, in which word-memories are blocked, and so vocal speech though heard is not understood; visual, in which the visual memories are blocked and so the visible words of the printed page convey no intelligence.

Still more noteworthy are the apractic disturbances, as a result of which the patient is unable to execute purposeful movements. Such patients are unable to do relatively simple things. These conditions become closely allied to speech disturbances pure and simple, and go to show that purposeful acts are commonly and preponderatingly cared for in the left hemisphere, though apractice disturbances also of course occur on the left side of the body from lesions of the right hemisphere. The subject is too complex to more than mention here.

The relation of the causative lesions in aphasia to the apoplexies has been already suggested in the allusions to blood-supply and the vessels involved, and we should bear in mind that the apoplexies are due to either the breaking or blocking of cerebral vessels, that the present is an age of vascular degeneration, and that thickening of vessel-walls, and eventual blocking, more or less complete, of the lumen, is of more frequent occurrence than actual rupture and consequent hemorrhage.

This paper adds nothing new, the writer is well aware, to what has been already worked out concerning aphasia, but possibly calling attention to its sometimes forgotten points and its frequently neglected analysis may not be to us without profit. The paper, of course, has its only value in this, and in its plea for a more careful study of our aphasic cases. Of practical value to this end will be a brief consideration of our tests of these patients as to the integrity of nerve paths concerned. In addition to the more obvious and common tests which simple consideration of the function involved will readily suggest, it may be well to ascertain[11] whether the patient can copy from printed to written letters, whether he can write from dictation, whether he can repeat words heard, whether he can pick out objects, clearly identifying them, the name of which he has heard, whether he can name objects seen, whether without suggestion he understands gestures and pantomime, etc.

The following are cases in point which have greatly interested the writer. His only regret is that in none of his own cases can he present you actual post-mortem demonstration of the lesion producing the aphasia:

Case 1.—Mr. C., nearly 70, both of whose parents lived to 83 and whose father is said to have had eight different attacks of amnesic aphasia, and then to have died of something else, had also one sister said to have been

11. Stewart, Purves: Diagnosis of Nervous Diseases, 1906.

mentally peculiar. He was a well developed man, of good habits, and had generally enjoyed good health, but after an anesthetic some months previously had exhibited a temporary aphasia which he recovered from.

On a Saturday afternoon, after working hard in his office, he had gone to his club and enjoyed a game of billiards. Starting home, he bought a paper, got into the usual street car by which he reached his home, but found that he could not read, that the words conveyed no ideas, that the printed page was a blank, practically, to him. He reached his home without mishap and his family noticed that his hearing (impaired for some years) was much less acute than usual, and that he seemed very tired and exhausted. His appearance alarmed them, and to his physician he seemed to hesitate in speech, as if very carefully weighing his words. He complained only of unusual fatigue and headache, but found it difficult that evening to recall desired words. Twenty-four hours later his efforts to express himself resulted only in a meaningless gibberish (jargon aphasia), this clinical exhibition being very often seen in sensory aphasia. I saw him in consultation the next day (Monday), when his appearance was that of great mental confusion. He seemed to have no clear appreciation of what was said to him and written words seemed to convey no idea whatever. His arteries were hard and blood-pressure high. He cleared up under treatment, and resumed business, but four months later suffered another apoplexy on the street and died without rallying. No autopsy could be had, greatly to our regret.

Here, obviously, was a sensory aphasia involving both visual and auditory centers, chiefly the former. We should have found here a temporal lesion which so blocked visual and auditory impressions that the higher centers could not elaborate them in properly arranged motor impulses and the ataxic speech resulted.

CASE 2.—J. C., a retired farmer of negative family, and good personal history, was seen in consultation April 10, 1911. Three days before, apparently perfectly well, he had been to a barn-raising and returning home about 6 p. m. complained of feeling queer in his head, and his powers of speech became at once greatly impaired. He would start, but could not finish, a sentence. Though accustomed to read in the evening, he could not be induced to read. He passed a restless night and showed evidences of much mental confusion, required assistance in dressing, and when shown water and soap and towel, seemed to have no idea of their uses. He was then seated at the breakfast table, and soon after suddenly dipped his hands in the butter and went through the motions of washing his face in the butter. During that day he did not even attend to the calls of nature, but soiled himself and his room. When I first saw him, he took my proffered hand in an unintelligent sort of a way and, after I had succeeded in getting his close attention, he repeated after me, "How do you do?" He thus showed his capacity for imitative speech, at the same time demonstrating disinclination to spontaneous speech. Asked to write his name, he took the pen and put it to the paper in an indifferent, purposeless manner, then looked earnest and bewildered and said, "Well, I don't know how," and, after a little, "How do you go at it?" Then laboriously and confusedly made a few meaningless scratches. Here clearly was a good example of agraphia. Called to loudly, he apparently heard the sound but had no idea of the direction from which it came, but when asked as to who his physician was, he being present, said, "I know that fellow all right." Asked to say "Dog," says "I think so." Asked to say "Hitchcock," says "I think so." Given a glass of water, he drinks it. Called to the wash-bowl filled with water, and shown soap and towel, he seemed to get no conception of their purpose until the soap was put into his hands, when he proceeded with his ablutions, but did not appreciate the use of the towel until it was laid over his wet hands. His systolic blood-pressure was 200 mm. Hg.

Seen again a month later, though improved, he exhibited marked impairment of memory, some mental confusion, evidences of sensory (auditory) aphasia, in the lack of comprehension of any but the simplest requests, and in the alexia, since he fails utterly to read the simplest sentence. The agraphia present at the first interview is present in less degree now, for after a long effort to write his name, he finally scrawls "James" and then the last syllable of his surname. The pantomime of batting and catching a ball promptly elicits the response "club." Seen October 18, over seven months after his attack, he was found unable to do errands reliably, often confused, often uttering a sound similar to the word he wants,

his memory very faulty and sentences commonly incomplete. He failed utterly in his attempt to write his own name.

Lesions behind the sensory speech center, Liepmann says, viz., in the angular gyrus, are very apt to entail both alexia and agraphia, as are seen in this case. This is strongly suggestive of the possible location of the lesion which we should probably find here. An autopsy will be of great interest in confirming our diagnosis.

Case 3.—Was a man of 60, active in business and social relations, who on Jan. 18, 1910, attended correctly to some business matters in his room, and, as it later developed, suffered a fall there, much to his own surprise. He later came down stairs to go to the bank, when it was noted that his sentences were incomplete and his speech unintelligible. Attempting to leave the house, he fell again, just inside of the door, but made light of it and started on his errand. A few minutes later he entered a drug store, confused in appearance, and so strange was his speech that he was thought to be intoxicated. He was found by some one who knew him and brought home. He was well acquainted with the physician first called, but did not recognize him, called him by the name of a deceased friend, and talked an unintelligible jargon, which was his only speech when I first saw him about three hours after the onset of his attack. In his jargon he frequently interpolated the sound "derium," and "maderius" and "rerius," were frequently used in the attempted completion of his sentences. He was at once put to bed and kept there for several weeks. He became more and more appreciative of his condition and though he coined many queer words to complete his sentences, he gradually cleared up and after a not lengthy convalescence resumed his coming and going at pleasure, and he attends so well to matters of business that the marked defect of his vocabulary would be noted only by the trained observer. If he undertakes too much, he becomes excited, his speech is at once more limited, and he is apt to fail in his attempts to express himself. His Wassermann reaction was weakly positive and he seemed to benefit not a little from the use of sodium cacodylate. This seems to me strongly suggestive of a thrombotic apoplexy here. His ability to read was never greatly interfered with, and the aphasia seems largely a motor one, the functions of the higher center not being greatly interfered with. Undoubtedly in this case the lesion was a frontal one.

It is to be noted that in many cases of right hemiplegia aphasia is a complicating phase of the apoplexy. This, of course, occurs sometimes in cases of left hemiplegia, but when this is the case it is quite commonly the fact that the patient is left-handed. I have considered the matter of aphasia here as a thing rather apart from the ordinary hemiplegia, with its disturbance of motor centers. The lesions here are less extensive and more limited. It will be noted that in all three of the cases cited there was no motor paralysis, no disturbance of the ordinary motor centers, but affection of speech centers only.

If it be said in reply to the plea for more exact diagnoses than those with which we too often satisfy our easy-going consciences, that life is too short and that diagnosis does not help treatment, the argument still holds good that our work is never too well done, and that we should endeavor to have as nice a knowledge as possible of all of our cases. If we are to thoroughly understand the conditions with which we deal, and their probable outcome, a matter so often of vital importance to friends, it can only be at the expense of such careful study as should justify a thoroughly scientific diagnosis.

270 Woodward Ave.

HAND KNOWLEDGE; ITS RESULTS AND POSSIBILITIES FOR ACQUIREMENT*

H. L. SIMPSON, M.D.
Detroit

It is my purpose here to discuss that phase of every surgeon's skill, which is by nature his own peculiar acquirement, and which he must attain to a large extent, without more than the guidance of personal results and patient practice. It is not to be found in books or taught of a master.

It has been called hand knowledge by one who understood its value and possibilities in other arts and accomplishments, and I have used the term in preference to dexterity, since I wish to lay the stress on that deftness possible to acquire, rather than that usually looked upon as a gift.

To the man with an established practice and ample clinic, this discussion may seem superfluous, but I find a very large number of eye, ear, nose and throat surgeons or practitioners are still in the first five years of practice building.

We are all agreed that to undertake surgery in any field without that knowledge which embraces anatomy, physiology, pathology and available therapeutics is, to say the least, inexcusable, but of the dexterity necessary to efficient mechanical performance, we have given too little thought. And I am persuaded that many of our poor results, indifferent recoveries, even subsequent harmful effects are due more to the lack of such efficiency than to the ignorance of the conditions and the procedure indicated.

Eye, ear, nose and throat surgeons stand in peculiar need moreover, dealing as they do so often with those conditions exacting of dexterity; the conscious patient, small, obscure field, difficult orientation, most delicate, sensitive, easily injured tissues and the frequently sudden flow of blood; all requiring rapid though precise technic.

Inferior manual performance is so evident in much operating, and so often the less effectual operation is resorted to because it will require less precise technic of the operator, and after all may fill the need, that it is plain, to no little extent fine results hinge on the cultivation of mechanical deftness. This cultivation, however, has been relegated to the impossible, save for those fortunate in an ample clinic affording much practice, often a very improbable and uncertain privilege for the young man.

Moreover, danger is the best and sternest teacher and the mortality resulting from operating in our fields is low. A vast amount of operating has been done in the shelter of comparative safety, careless of minute nerve association, delicate membranes and muscle action.

There are several reasons why this subject has not been given too much thought. One, its very obviousness and the tacit acceptance that, with many, deftness is a gift, and that practice, the only way to

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

acquire such proficiency is by operating itself. However, if it can be proved that the larger share of preparation, the laying in store of hand knowledge, can be got before operating is attempted, then it seems plain that we have no more right to obtain this preparation at the hands of a long-suffering public, than we have to learn our anatomy by operating. Yet as it is, most surgeons acquire too much of their skill at the hands of the public, instead of approaching it with an offer of skill acquired.

The writer's first serious study of acquired mechanical proficiency came out of a consciousness of a difference in the recovery of patients operated on for nasal obstruction. So marked was the evidence of superior recovery in those patients where submucous resection was employed in preference to the alternative of merely removing a projecting piece of cartilage and bone, that he was led to a more serious consideration of the relation a neat wound bore to ultimate recovery. Both classes of patients could breathe better, but those recovering from submucous resection, showed a much more comprehensive recovery, conspicuous in the more genuine pleasure of living, and breathing in particular; expressing in almost every case a delight in the mere impingement of air on the surfaces of the nose. Also, they complained less often of sneezing, coughing, crusts and the persisting postnasal catarrh. The fundamental difference in the local result was unquestionably that in the submucous resection procedure, the membrane was left more intact by a single clean incision. Though no exact table could possibly be given, the writer was continually impressed from then on with the difference in recoveries from all kinds of operations where the wound was of the cleanest, most mechanically perfect nature and as has been indicated, the results were often remote.

Now I believe such dexterity and perfection of technic, so valuable to the surgeon, has been too often looked upon as a gift, a pre-natal tendency perhaps, or if considered in the light of an acquired facility at all, always necessarily acquired in actual practice of the art of surgery; this at a glance means much experiment at the hands of a long suffering public, too limited, by far at that; and under such irregular and uncertain occasion, a very dubious average of excellence is assured. There is plenty of surgery to be done, but apparently much of it suffers from inferior execution in the process of teaching the profession how to use its hands.

For that is the bugbear of mechanical performance. All psychologic tests and observations up to the present indicate that the learning of movements is not aided much by watching another. As William Hazlitt says, "In mechanical performance, the individual must emulate himself."

Let us consider the principles underlying any movement which may have obvious relation to our desire to acquire specialized ones; and the surgeon is dependent on a large store of highly specialized ones, delicately adjusted and adapted to his work. In other words his "hand knowledge" is of the most complex nature.

Authoritative psychological tests and observations bear out the following conclusions: First that all movement is in response to sensory stimuli. Sensation arouses attention, attention or the power of concentration chooses what shall enter the consciousness, thereby making a selection of ideas, and movement follows in response to the idea. As for instance, the eye falls on a variety of foods, attention is attracted by a certain dish. The idea of pleasure or distaste arises and a corre-

sponding movement to draw toward, or to push from, takes place in response to the idea. Attention controls not only the choice of ideas entering the consciousness, but the movements themselves. If the attention is vigorously aroused for or against the food, the movement will be correspondingly vigorous; and many memories of past experience will influence the attention.

With practice, movements of all kinds become automatic responses to sensory stimuli. At certain sounds, sights, odors, etc., we do certain things. A bell rings, we go to dinner. We do not think on hearing it, "Now I must rise, plant one foot in front of the other until I come to the dining room, then turn to the left, etc.;" rather an involved muscular exercise is here accomplished subconsciously, in response to a familiar sound.

So in whittling a stick, we unconsciously adapt the movement to the information furnished by the various sensations. The mind attends both the visual and tactile sensations and adjusts the stroke of the knife in response, this way or that, cutting deeply or shaving gently.

Then to go farther, other tests show that with any new sensation and its succeeding new idea, the muscles struggle to respond. I say struggle for that is apparently the price of any muscular achievement. Animal trainers have always observed that a movement could not be taught by watching or leading the animal through the motions. The motion must come in response to an idea in the creature's mind. Tests and observations on man have upheld the conclusion.

One may watch dancing a lifetime and still not dance. The trick only comes by trying. The beginner, held by a firm proficient partner, shuffles, hitches and hops across the floor, experimenting with nearly every muscle in his body, until suddenly he stumbles on something which feels like it. He loses it, stumbles on it again, but latterly, with patience and practice, he finds himself gliding about in perfect harmony with his partner. He has in other words by random trials, hit on the exact complex which fulfils his desire. Those muscles not required for it quickly relax, and by practice he may make the right combination a permanent possession; so that from then on his senses have only to transmit a like stimulus to set the whole series of movements under way again. In childhood we learn the simplest movements by the same haphazard method. The infant, in an effort to move in any direction, contracts nearly every muscle in his body, going through no end of contortions before his attention seizes on the right complex and practice makes perfect. Day by day his store of adapted movements increases; the fundamental ones are modified and adjusted to new desires and their performance and proficiency depend on practice, his power of attention and concentration.

And now what application may this have to our profession? It seems to me that if each modified movement is incorporated only through individual selection from random trials with already acquired movements (as Dr. Pillsbury says, "In the stroke of golf, we adapt the stroke of the axe, or similar stroke, to suit that connection"); then it follows apparently that one engaged in an occupation like our own, requiring highly specialized movements, would exhibit a facility in direct proportion to his store of acquired movements, valuable in that connection. This is true, the power of attention being equal. It cannot be overlooked that the power to attend varies greatly with individuals, and where extremely acute, will overcome lack of practice so rapidly that its possessors often achieve with surpris-

ing sureness in response to unfamiliar stimuli.

But attention being equal, the person with the greatest store of hand knowledge will be much the better operator. And even attention developes rapidly in a given direction, with practice. The man in the crow's-nest has no better organs of sight than you, but his mind is trained to attend the visual sensations commonly received in his trade. The organs of sense do not change. On the high road the horse and the automobile may be more distinguishable to you than to him, but on the sea, his mind is at home, and long practice in attention to its signals has made it possible for him to receive fine distinctions. To quote Professor Pillsbury once more:

> "Much of what passes for extreme acuteness of some special sense is nothing more than the result of special training of the attention to efficiency in one particular line."

I ask, therefore, knowing so much of the elements of mechanical performance, is it possible outside an actual clinic, to acquire valuable muscular training and increased power of attention in the direction of surgery? I for one am convinced that it is, and that the average young operator is needlessly hampered, because as a profession, we fail to lay sufficient stress on this phase of his skill.

Taking some broad examples in other so-called muscular training, the football player practices tackling a pair of suspended sawdust legs, with profit, though they lack much in likeness to the real pair of ground gainers he is preparing himself to tackle. Yet the trainer recognizes that the sensory stimulus in such practice is sufficiently similar to exercise the power of concentration in that direction and incorporate a store of valuable movements, to be called automatically into play later. Thus the exact modification for actual tackling is simplified when the time comes for the rapid certainty which may save the day. Thus people who have learned the piano, all things being equal, progress faster with the typewriter, and so on. Every-day life is full of such examples, and every-day life is also full of opportunities to lay by a store of knowledge and power of this nature, so valuable in our fields.

Two more gratifying aspects we must not forget. Tests show that the dull pupil will attain a proficiency with practice, equal and sometimes greater than the apt. But what perhaps adds most to the zest of mechanical performance is the fact that success or failure is no indefinite thing. It is like hitting a mark, you either do it or don't and progress is easily discernible. No act, even such as the mere handling of forceps leaves room for doubt.

We have all seen the surgeon who never loses a move, never gets in his own way, seems to be controlling the field itself rather than obedient to it, and we call him a genius. It has been said that the essence of genius is industry. How can we direct our industry without actual clinic? How can we train our hands?

First, I should say that nothing in the way of recreation would be lost that developed concentration on aim and control, including all games requiring these. Those requiring the greater accuracy the better. Any occupation which demands the employment of tools is helpful. An instructor in a dental college recently told me that there were three classes of students to be met with in their work. One class had no feeling for tools, and was slow to acquire it, but often became very proficient with thorough practice. The next had no feeling for tools, but due to a very keen mind soon acquired one, but the third was so familiar with tools that he had very little to learn in comparison.

Much the same thing is indoubtedly true of surgeons whose feeling for tools must become so much more delicate, and abstract practice in the indulgence of a helpful avocation ought to bring results.

So much for leisure hours. Now as to actual practice with the instruments to be employed. First there is a sort of industry of the imagination which comes natural to the enthusiast but may be cultivated consciously. It has to do with the fact that the act and the thought are almost incomprehensibly bound. It can best be illustrated by that instrument used to record the muscular response in the larynx. With a proper instrument for this purpose, the muscular response to the spoken or thought word may be registered, and the charts will show that the only difference in the record is one of degree, the word spoken will of course make the stronger impression. Since this is so, may it not be possible to get some subtle unconscious development of our powers in merely thinking out an operation. When this is done in the vicinity of one's instruments, before one is aware of himself he has them in his hands and is arranging them, like Napoleon his lead soldiers, in their best relation to one another for the probable situation; and most of all in their most perfect relation to himself, recognizing them not as knives and forceps, but as merely parts of his own complicated mechanism. He makes their acquaintance in an imaginary tentation and in some measure senses their ultimate possibilities. All good surgeons do this more or less, and I believe that the benefit of such industrious imaginings is untold.

It would be interesting to ask each surgical aspirant how he thinks of his instruments. Do they lie in state in a glass case for some future use, or does the mere companionship of them set up an absorbing train of ideas which invites his attention.

Perhaps most valuable, if properly used, is the daily routine of work, not including actual operating. Here by wilful attention to accuracy the physician may obtain valuable training in concentration as well as movement, in the handling of the probe, the applicator, the speculum, etc. But the practice of the greatest value here is perhaps in orientation. It must be remembered that the accuracy of the movement is dependent to the greatest extent on the clearness of the visual sensation. A vivid field is the secret of dispatch, and we know that its vividness is dependent on the power of the mind's attention in that direction. We have seen men of twenty-five years' experience who had allowed their powers of concentration to become so careless that a much younger man with live enthusiasm, exacting of himself from day to day, could see twice as much with the same facilities, and no better eyes. Training the perception is dependent on patient exacting practice, and it may be got in a variety of ways, without money and without price. There are all the opportunities the regular clientele affords; the dark recess of the curled hand, and the writer once had some sport with a keyhole. One's progress is largely in proportion as he is exacting of himself, rather than his opportunity.

And when we come to that other sense, which enables one to feel with the knife as with the tips of the fingers, to anticipate the resistance of tissues, gauge the length, depth and range of a buried stroke, practice is not out of reach. If not the cadaver, there are other ways. It might be well, lest here we smile, to recall that an eye-witness proclaimed of John Hunter that he went about cutting up the carcass of a whale with the gusto of an artist, with the same alert sense of fine distinc-

tions in substance and treatment that he used on the human body. If John Hunter could bend his superb faculties to the dissection of a whale's carcass, we certainly are not lacking in possible material. We have no excuse for our unfertile hours of waiting for a practice, save indifference to the value of such a store of hand knowledge, or we are barren of the ingenuity, and desire to acquire it.

There are three concomitants of the surgeon's skill to be kept in mind. He must first have the required knowledge and practiced facilities for discovering the condition present; he must then have judgment, born of education and training, to determine the procedure justifiable, but unless he will permit his execution to be hampered by the distractions of uncertainty, he must, when it comes to the operation itself, approach his task with firm reliance in the nice obedience of his hands and their servants. Only then will he proceed with confidence, celerity and an unconscious proficiency.

No field is more dependent on deftness than our own. Can we afford to neglect its careful study and acquirement?

27 East Grand River Avenue.

IMPRESSIONS OF AMERICAN MEDICAL TEACHING

Docent Heinrich Neumann of Vienna visited the International Otologic Congress in Boston, the American Academy of Ophthalmology and Oto-Laryngology in Niagara Falls and traveled extensively in America during August and September. The following interview with him, just prior to his return to Austria, is reported:

"Take the largest city hospitals here (in New York) and you find that there are too many heads to every department. There is no regular system of post-mortems. One case may be handled by three, four or more physicians, and young physicians come and go without regard to the length of time spent in study and practice. Many are striving only to make money in private practice without considering whether or not they have fitted themselves honestly to practice as specialists.

"It would not be necessary for students and medical men to go to Europe for special study if the proper methods were adopted here. You have men of as high intelligence and skill as any to be found anywhere, and you have the means to meet all requirements. But, under the conditions which prevail here, hundreds of Americans are forced to seek special knowledge in foreign countries. Take the New York Eye and Ear Hospital; a splendid, modern institution, and yet four or five physicians there divide the cases among themselves. One will have a case to-day, another will have it next day, and so on until the original treatment is lost sight of. One doctor reverses the treatment of another, which is bad for the patient, and worse for the physician for he does not have a proper opportunity to study the patient, and cannot advance in the study of his specialty.

"Young physicians are permitted to give up hospital practice too soon and take up private work. They are all hustling to make money. They want automobiles, and their thoughts are more on society than on science. I have not an automobile. I do not want one. As the head of Gremial Hospital, a state institution, I receive only $1,600 a year salary, about what I sometimes receive in one or two fees from private patients for an operation or treatment. In addition to this I have charge of the Kaiser Franz Josef Hospital. Every patient in my department has my special attention. My assistants have to work. If they do not study and work they must leave. In five or six years of hard work I can turn out specialists."

POSTOPERATIVE HERNIA

Postoperative hernias are due to mechanical interference with the nerve supply of the abdominal muscles. In clean cases this interference is the direct result of the cutting or bruising of any of the six lower intercostal nerves, or ocasionally due to the stretching of the anterior belly wall from pressure of gas in the intestine and stomach.—Hoeve, *International Jour. of Surgery.*

THE RELATION OF CONVULSIONS IN CHILDREN TO DIETARY ERRORS*

JOHN B. JACKSON, M.D.
Kalamazoo, Mich.

It is a matter of common observation that a large percentage of convulsions in childhood are associated with some form of gastro-intestinal disturbance. It is also a matter of common observation that the human young is fed with less care than the young of any other animal. It is the purpose of this paper to discuss the relation existing between the convulsions of childhood and dietary errors and to suggest, if possible, how the physician may assume a more active part in this particular field of medicine.

Children are very much more frequently attacked by convulsions than are adults. With the exception of the first few weeks of life, when convulsions are rare, except those caused by organic brain disease or trauma, the first two years are those during which convulsions are most frequent. With the beginning of the third year the tendency grows less and at the age of three the tendency is no longer marked. The explanation of this tendency has long been sought. The discussion of the various theories that have been offered will not be taken up. We may make the general statement that the nervous organization of the child is not stable. The brain grows and develops rapidly. The peripheral nerves develop rapidly and the powers of inhibition are weak. As the child grows older the nervous system is more developed and the powers of volition and of inhibition are brought into use. At the same time the tendency to convulsions becomes much less marked.

There are several types of convulsions that occur in early childhood. The ordinary type and the one which most concerns us in this discussion is that of simple clonic convulsions. There may or may not be prodromal signs. Frequently there is a premonitory pallor and an expressionless cast to the countenance with some rolling of the eyes. This is quickly followed by clonic movements of the extremities. The muscles of the face are involved often. The head is usually pulled backward. The diaphragm is also often involved and respiration is irregular or completely arrested. Consciousness is always lost. The attack may be of only a few seconds' duration, or may last for an hour or more. This is the ordinary type of convulsions that occurs.

Another form is the so-called tetany of children. This is a tonic spasm usually involving the upper extremities. The hand and forearm are held in flexion. The lower extremities are sometimes involved. There is no loss of consciousness. The convulsions may last for several hours or even days. Spasm of the larynx is another form of convulsions which is not infrequent in childhood. This condition is frequently associated with tetany.

While it is not our purpose to enter into a discussion of the various classifications offered for the convulsions of child-

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

hood, one can scarcely consider the various forms without some mention of the so-called spasmophilia or spasmophilic diathesis. German pediatrists differentiate between occasional or accidental convulsions which occur in childhood and those which occur in children who have a marked tendency to such seizures. Certain children or families of children seem to be born with an oversensitive nervous organization which causes them to have convulsions on slight provocation. This hyperirritability of the nervous system is called spasmophilia. The general clonic convulsions occurring in such children are referred to as infantile eclampsia. These seizures are almost always accompanied or preceded by laryngeal spasm. Consciousness is always lost. Infantile eclampsia, tetany and laryngospasm are classified in the spasmophilic group.

Spasmophilia presents latent symptoms which may be elicited between the attacks. Among these may be mentioned increased irritability to the galvanic current, Chvostek's facial phenomenon and Trousseau's sign. Chvostek's sign depends on the increased mechanical irritability of the nerves. When the facial nerve is tapped or stroked on the cheek there follows a general contraction in the region supplied by the nerve. Trousseau's sign depends on a like increased irritability. When pressure is made by constriction of the arm near the axilla it brings on a convulsion like that of tetany.

Another form of convulsions that may occur during early childhood is epilepsy. One may hesitate to place epilepsy among the other forms of infantile convulsions, because of the difficulty of differentiating epilepsy from the attacks of simple clonic convulsions, or of the so-called infantile eclampsia. However, most authorities agree that epilepsy in early childhood is a disease entity and as such should be differentiated from other forms of convulsions.

While we have not attempted to classify or to carefully describe infantile convulsions the foregoing will suffice, for the purpose of this paper, as a review of the more important types.

In order to discuss the relation of dietary errors it will be necessary to review briefly the various etiological factors that have to do with these convulsions.

Organic disease of the brain or spinal cord may produce convulsions in infants as in adults. Uremia and other intoxications resulting from organic disease of the various viscera may be the cause of convulsions. Certain toxic drugs are capable of producing such disturbances. Acute infections like pneumonia or the various exanthemata sometimes have convulsions among the early symptoms. Recently a case of repeated convulsions in a child 8 months of age for four days preceding an eruption of measles came under my observation. A frequent source is the acute indigestion that follows errors in diet. A child is given food that is indigestible and there follows a general disturbance of the gastro-intestinal tract, and convulsions appear. One of the most severe attacks of convulsions that I ever observed in a child occurred in the case of a 2-year-old who had eaten freely of unripe apples. The chronic intestinal indigestion of childhood is perhaps the most frequent cause of convulsions. These cases are exceedingly numerous among the children of all classes of society. Their bodies are being constantly poisoned by the toxins arising from the fermentation and decomposition of food within the intestinal tract, and the nervous system is in a constant state of hyperirritability. Rickets is a disease which frequently is associated with some form of convulsions. The so-called spasmophilic diathesis is very close-

ly related to this disease. By some writers rachitis is considered the underlying cause of all convulsions of the spasmophilic group. Constipation is frequently the cause of convulsions in children. Reflex irritation such as a tight foreskin, or a foreign body in the external auditory canal may be the immediate cause of these disturbances. In a consideration of this sort one should make mention of family tendencies. Certain families seem to be born into this world with a predisposition towards infantile convulsions. One frequently sees several children of the same family who have convulsions during the first two or three years of life. In many cases a history of convulsions during infancy may be elicited in the father or the mother. Other etiologic factors might be discussed, but there is not time for this consideration in this paper.

A consideration of the foregoing causes will show that the one most important factor in the etiology of infantile convulsions is the food that the young child eats.

Organic diseases of the brain or spinal cord may be said to be independent of diet, and yet we may mention that one very frequent cause of such disease, the tubercle bacillus is most frequently introduced through infected milk.

Acute infections like pneumonia or the exanthemata may produce convulsions in a child previously in perfect health. Yet I believe many have observed that these diseases produce convulsions in otherwise healthy children much less frequently than in those who are suffering from improper feeding. Children with hyperirritable nervous make-up are much more likely to have convulsions with these diseases than those who are normal in this respect. I recently observed a 16-months-old child with pneumonia who had three or four convulsions at the beginning of the attack. Colonic irrigations revealed a considerable quantity of undigested baked beans. It is fair to suppose that a child whose colon is filled with such unsuitable material is more likely to have convulsions at the beginning of an attack of pneumonia than one who has been fed more reasonably. Recently the two children of a family came down with measles. These children have always been improperly fed. Both had had several convulsive seizures. Preceding the eruption of measles both had convulsions. It is fair to suppose that these children who had already had the convulsion habit formed were much more likely to manifest such symptoms at the time of an attack of measles than children with better feeding and a more normal nervous system.

Of the acute indigestions of early childhood we need to say little. These are manifestly due to a great extent to the faulty feeding. In the case of infants the milk is frequently not properly modified, or contains bacterial toxins or pathogenic bacteria. In older children the cause of acute indigestion is frequently food that is entirely unfit for children to eat.

Chronic intestinal indigestion in children is, I believe, the one most important condition which is associated with convulsions. That improper feeding is the starting point of a very large percentage of these cases there can be little doubt. In this connection, it may be well to point out the often observed relation between chronic indigestion with its attendant nervous phenomena and epilepsy of later childhood. So far as I am able to learn the exact cause of epilepsy is not known. We are told to differentiate in early childhood between simple convulsions and true epilepsy. About the only way that this may be done is to follow the expectant plan of diagnosis. If the child develops into an epileptic the convulsions were epilepsy. If he does not, the convulsions

were not epilepsy. Whatever may be the element of truth in this bit of levity, it is a fact that many of these children with chronic gastro-intestinal disease who have convulsions continue their habit of having fits until they become true epileptics.

Concerning the relation of rickets to improper feeding there is little to say. We shall not enter into a discussion of the old question of the etiology of rickets. It is enough to point out a few pertinent facts. Rickets is much more frequent in the bottle-fed than in the breast-fed. It is much more common among the poor than among the well-to-do. It frequently has gastro-intestinal disturbance among its symptoms. It would seem that if we always knew what to feed our children, there would be very few cases of rickets.

Constipation which we have mentioned as a source of convulsions may often, and always best, be relieved by proper diet.

In regard to family tendencies to infantile convulsions it has been my observation that family tendencies to improper feeding are often coincident with the tendencies to convulsions. While no one would attempt to say that such unstable nervous organizations are not often matters of heredity, it is none the less true that many families owe the hyperirritability of the nervous system to causes quite remote from heredity.

It may be of value to discuss some of the more common and easily detected errors in diet which have to do with the nervous disturbances under discussion. Among infants of the first nine months there are five things which we will discuss: weaning from the breast without sufficient reason, overfeeding, irregular feeding, an excess of carbohydrates and an excess of fats.

The greatest calamity which may befall a young baby is to be deprived of the privilege of nursing at the mother's breast. This statement needs no proving and yet physicians frequently advise weaning for reasons which are altogether insufficient. A great many children are weaned because they are fretful the first two or three weeks. Others are weaned because the mother's milk is insufficient. Many children may be put temporarily on mixed feeding rather than weaned altogether. If the seriousness of depriving the baby of mother's milk were always borne in mind a great many convulsions would be prevented.

Overfeeding is probably the most frequent error made in bottle feeding the baby. This and irregularity in feeding go together. It is not to be wondered at that children who suffer from such mistakes come to have chronic disturbances of the gastro-intestinal tract and become subject to convulsive seizures.

Overfeeding of carbohydrates by parents and physicians is due to a great extent to the large number of proprietary foods on the market which are advertised as superior to cow's milk. One frequently hears mothers remark that they never could find anything to agree with their babies until finally they tried cow's milk.

Feeding with too much fat, is I believe, the error that is most frequently made by physicians prescribing milk modifications for babies. In my somewhat limited experience in artificial feeding of infants I have become firmly convinced that there is very seldom a need for feeding babies with cream mixtures or top milk mixtures. However this may be, many babies often are brought to grief on too much fat.

Among older children after the first nine months and before the period of the more varied diet of the third year there are certain common errors of which we may speak. First may be mentioned the

error of feeding children for too long a time on a too exclusively milk diet. Children who are fed too large quantities of milk do not do well. There are very few cases in which children may be fed more than a quart of milk a day for more than a few weeks and be free from disturbances of nutrition. On the other hand, children are frequently fed too little milk.

A second error is that of an excess of carbohydrates. Among the poorer classes a great many children are fed large quantities of bread and potatoes. This error is frequently followed by rickets and it's attendant disturbances of the nervous system.

Another common error during this second feeding period is the feeding of too much highly proteid material such as meat and eggs. This always leads to chronic intestinal disturbances and very frequently to convulsions.

We have tried to indicate the relation that exists between dietary errors in children and convulsions. The object in so doing is not to expound any new theory. A great many convulsions are not due to such mistakes, but it is safe to say that 90 per cent. of them may be directly or indirectly traced to such errors. Our object is to point out the physician's responsibility when called to such cases. It is not enough to relieve the child for the time being. An effort should be made to find out the underlying cause and to endeavor to so instruct the parents in the matter of feeding that the child may not continue to have such seizures, and possibly later become an epileptic or neurotic adult.

ETIOLOGY OF MEASLES

Dr. John F. Anderson and Dr. Joseph Goldberger, of the Hygienic Laboratory of the United States Public Health Service at Washington, announced at the recent International Congress on Hygiene and Demography, two discoveries in connection with the common children's disease, measles. They found that monkeys might get the measles and that the disease was communicated, not by the scaling off of dried particles of skin, but by sneezing of the patient during the early stages of the disease. Doctors had long tried to infect animals with measles in order to study the nature of the disease and find a new method of combating epidemics, but had failed so completely it was thought the germ was harmless to the lower animals. Their investigations have shown also that the commonly accepted theory, that the scales or dried particles of skin that were brushed off a child with measles carried the germs, is entirely erroneous, and these scales have nothing to do with contagion. Nose and mouth secretions convey the germs from the sick to the well. A child with measles coughs and sneezes a great deal; when this is done a fine spray is thrown out and this carries the germs of the disease. Any child who has not had measles and who breathes this spray would catch the disease. They also showed that it is possible for a child to become infected by drinking from the same dipper that another child in the early stage of the disease has used. This accounts for the fact that epidemics of measles occur so frequently in schools and other places where children gather.—*New York Med. Jour.*

OPEN AIR SCHOOLS

With the opening of the fall school term, over 200 open air schools and fresh air classes for tuberculous and anemic children, and also for all children in certain rooms and grades, were in operation in various parts of the United States, according to a statement published by The National Association for the Study and Prevention of Tuberculosis.

All of these schools, the association says, have been established since January, 1907, when the first institution of this character was opened in Providence, R. I. On Jan. 1, 1910, there were only 13 open air schools in this country and a year later the number had increased only to 29.

CIRRHOSIS OF THE LIVER*

I. M. J. HOTVEDT, M.D.
Muskegon, Mich.

DEFINITION

For various reasons an absolutely satisfactory definition of cirrhosis of the liver is well nigh impossible. No matter how careful, we are liable to run onto disputed ground. From a pathologic viewpoint, we may define cirrhosis as a generalized interlobular and intralobular fibrosis, with more or less parenchymatous changes. Clinically considered, it is a fibrosis, local or general, perihepatic or intrahepatic, giving rise to a certain series of symptoms. However considered, the process is essentially a chronic one, and the chief characteristic is the excessive development of connective tissue in the interlobular spaces.

In chronic congestion of the liver complicating heart disease, there is generally a considerable amount of connective tissue developed; but this should not be considered a true cirrhosis (Adami).

CLASSIFICATION

Our knowledge of cirrhosis of the liver is still incomplete in many important details. If we consider its etiology, pathology and symptomatology and carefully attempt to construct lines of comparison, we shall find that instead of running parallel they will soon cross and become quite entangled. An absolute classification is not, therefore, possible.

The classifications here given seem to me the most rational, and while slightly varying, they give, taken as a whole, a fairly complete picture.

Chouffard:
- I. Vascular.
  - A. Toxic.
    - 1. Intestinal poisons.
    - 2. Autochthonous.
  - B. Infectious.
    - 1. Microbic—direct—(local).
    - 2. Microbic poisons (extra hepatic).
  - C. Dystrophic.
    - 1. Arteriosclerotic.
    - 2. Congestive (?)
- II. Biliary.
  - A. Retention (bile).
  - B. Angeocholitic (small ducts).
- III. Capsular.
  - A. Perihepatic.
  - B. Local peritonitis.

Adami:
1. Portal.
2. Biliary.
3. Pericellular.
4. Arterial.
5. Centrilobular.
6. Secondary.
7. Sporadic.

Dieulafoy:
1. Partial or secondary.
2. Associated with other liver diseases.
3. Secondary to diseases in other organs.
4. Laennec's atrophic cirrhosis.
5. Hypotrophic alcoholic cirrhosis.
6. Hypertrophic biliary cirrhosis.
7. Syphilitic cirrhosis.

HISTORY

The great French physician, Laennec, was the first one to correctly describe the disease, and he gave it the name cirrhosis (Greek κιρρός—red or yellow, from the appearance of the liver). The particular form of cirrhosis that he described was

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

the atrophic, and for a long time this was the only kind recognized and described. Laennec believed that cirrhosis was analogous to scirrhus. In 1828 Bright described the disease and gave alcoholism as a cause. He described the pathologic changes caused by the disease, such as changes in the liver, fibrous peritonitis and sclerosis of the intestines.

In his "Researches on the Structures of the Liver," Kiernan presented an accurate picture of the minute anatomy of the liver, and gave the first true pathologic anatomy of cirrhosis.

In 1853, Gubler in his thesis for Fellowship, presented a summary of all that was known about cirrhosis at that time. Practically only one variety was recognized, namely, that leading to atrophy. Post-mortem examinations showed hypertrophic livers; but it was believed that all had an initial stage of hypertrophy and that all ended up in atrophy. This view is still held by some pathologists.

Hypertrophic cirrhosis had been foreshadowed and even clearly described by various writers, such as Requin, Toldt and Jaccoud. Oliver in his monograph gave it a full citizenship, and pointed out its clinical and anatomic characters which Charcot and Luys had previously indicated. Hypertrophic cirrhosis then became a text for many works. Hanot practically proved that inflammation of the small biliary canals is the starting point, and he really created hypertrophic biliary cirrhosis, later known as Hanot's cirrhosis. Hanot gave to the atrophic form the name of Laennec's cirrhosis.

ATROPHIC CIRRHOSIS

The subject of cirrhosis is too large for a full consideration, so we shall confine ourself to the atrophic form, more properly called Laennec's venous cirrhosis, in many respects the most important of the cirrhoses. We shall pay most attention to the etiology and pathology.

SYNONYMS

Portal cirrhosis; Laennec's disease; Laennec's atrophic cirrhosis; venous or bivenous cirrhosis; chronic interstitial hepatitis; hobnail liver; fibrous hepatitis; sclerosis of the liver; alcoholic cirrhosis; gin-drinkers' liver, and others.

ETIOLOGY

There is probably no one factor which has been more generally blamed for causing cirrhosis than alcohol. Some have even attempted to put the tag on particular forms of alcoholic beverage.

What part does alcohol play in the etiology of this disease? We have no means by which we can arrive at an absolute answer. We cannot prove it to satisfaction one way or the other; but we can only reason from the accumulated evidence at hand. Most authorities agree that alcohol is a causative factor. It is also true that a large proportion of cirrhotic patients give a clear history of alcoholism. Adami states that alcoholism is the most frequent cause on this continent (United States and Canada). Saundby says that "the chief and nearly unavoidable cause of the condition as we recognize it clinically is the excessive use of alcoholic drinks."

It must be granted, however, I think, that this assumption is in the main based on the clinical history. But even so, it must be reckoned with. However, I believe it has been too much taken for granted without sufficient evidence—sometimes, no doubt, with bad effect on the making of a diagnosis. Does alcohol act directly on the liver or indirectly through some deleterious influence along the lines of absorption; or by the action of some secondary or intermediate prod-

uct incident to the metabolism of alcohol? We cannot say; but probably the direct action of alcohol on the liver, as far as the causation of cirrhosis is concerned, is not very great. Some authors have tried to believe that not alcohol, but some product in association with it, as, for example, potassium sulphite (Lancereaux), is the real cause. There is not sufficient evidence to even give that a serious thought.

While a fairly large percentage of cirrhotic patients show a history of alcoholism, there are also many cases, proved by autopsy, who have never used alcohol to any extent at all. Again, Payne has pointed out that autopsies show that not cirrhosis but fatty liver is the rule in drunkards.

Experiments have failed to prove that alcohol caused cirrhosis in rabbits, dogs, pigs and rats. A few observers found cirrhotic changes (Straus, Blocq and Rechter), but most (Magnan, Ruge, Rupier, Nairet, Combimale, Strassman, Afonossijew, von Kahlden, Lafette and Kerr) found fatty infiltration and degeneration.

Adami states that evidence, especially from India, shows that extreme cirrhosis may attack children. Of 4,278 autopsies on children under 12 at Great Ormond Street Hospital, there were twenty-three cases of cirrhosis, of which thirteen were hobnailed.

It seems probable that the etiologic importance of alcohol has been rather exaggerated. That it plays an important part is beyond dispute, but really what part is not known.

It is thinkable that there may be such a thing as an individual diathesis or predisposition, and that where such diathesis exists, alcohol excites in some way the cirrhotic process. It probably acts much the same way as any slow-acting irritant poison would.

As emphasized by Strümpel, Dieulafoy and others, the absorption of toxic substances from the gastro-intestinal tract no doubt plays a very prominent rôle as an etiologic factor. Experimental atrophic cirrhosis has been produced in animals by feeding over long periods butyric, acetic, valerianic, lactic and oxalic acids. Similar results have been obtained by using living cultures and toxins of *B. coli.* This condition of auto-intoxication may not always lead to a true cirrhosis. A chronic congestion with a connective tissue overgrowth may follow, which Boix has designated "enlarged dyspeptic liver." This is found in children as well as in adults.

Flexner's experiment is interesting. He injected a 24-hour-old 1 per cent. dog serum into a vein of a rabbit. Almost immediately hemoglobinuria developed. At the end of a week there was considerable loss of flesh, and at the end of two weeks the rabbit died. Autopsy showed marked portal cirrhosis.

Direct bacterial cause has been suggested. Adami has found *B. coli* alive and active in cirrhotic livers of man and cattle.

Tuberculosis has been suggested as a possible cause. Cirrhosis is not very uncommon as a complication in tuberculosis and malaria.

Spices seem to play some part. Tinozzi has shown that when pepper or capsicum is added to the food of dogs, after a time the liver will show an excessive development of connective tissue.

A form of cirrhosis has been described as occurring among the natives of Terra del Fuego, due to the eating of mussels. It is also known that cirrhosis has been caused by such poisons as lead (Lafette) and phosphorus (Eichhorst).

Appendicitis has also been blamed. If anything, it may possibly favor the development of gastro-intestinal poisons.

It is evident, then, that there is more than one factor in the causation of cirrhosis. It seems clear that the exciting cause is some slowly acting toxin or irritant, autogenous or exogenous, bacterial or metabolic, chemical or biogenic, entering the liver through the portal channels.

Atrophic cirrhosis may occur at any age, as proved by Howard, but is most common between the ages of 40 and 50. It is more common in males than in females, nearly as three to one.

PATHOLOGY

The liver is generally diminished in size, sometimes extremely so. It may, however, be larger than normal. The organ is hard, dense, of a kind of leathery consistency, and when cut it grates under the knife. It is not easily torn. Glisson's capsule is thickened. The surface is rough and studded with little hard elevations like so many nail-heads—"hobnailed liver." On section it shows little cell islands of reddish-yellow color that puff out slightly. On washing in water they readily come out. These islands are surrounded by glistening bands of connective tissue. If there is jaundice, the cell islands will be colored with bile pigments. If there is hemochromatosis both parenchyma and connective tissue will show a dark slaty color. If there is fatty degeneration there will be a pale yellow color. If the process has been very acute, there is likely to be congestion and a reddish color. The left lobe is generally more affected, but the opposite may be true.

Is there a primary enlargement? Adami believes that in cases due to alcoholism there is a first stage of enlargement, but not necessarily in others. The tendency of investigators now is not to regard hypertrophy as a necessary primary stage in each case. On minute study of the liver the most striking characteristics are: 1. The fibrosis. 2. The parenchyma changes.

1. Fibrosis. This is chiefly found in the interlobular spaces along the portal vein ("portal cirrhosis"), and to a less extent around the central vein. There is really a condition of phlebitis and periphlebitis of the portal vein, and this condition may at times be traced into the gastro-intestinal branches. In fact, it seems that in some cases the first pathologic change is a phlebitis of the portal capillaries. This fact would, it seems to me, tend to show that the offending agent comes from the gastro-intestinal tract.

This fibrosis starts by a development or deposition of small round cells of an embryonic nature in the walls of the veins, gradually extending out and filling the portal spaces. These cells change and gradually become elongated, fusiform and fibrillary, thus gradually assuming the fibrous form. During this process a number of liver lobules become entrapped in this connective tissue network, and as contraction of the connective tissue begins, these little masses of liver cells will stand out more or less prominent, giving rise to the so-called "hobnailed" appearance.

The fibrosis of portal or atrophic cirrhosis has been variously recorded by different investigators as primary (productive) or secondary (replacement) fibrosis. As an example of a true secondary or replacement fibrosis, may be taken that of congenital syphilis. This process has been well studied. In this condition the liver parenchyma degenerates and atrophies, becomes gradually replaced by the connective tissue; a lower type of tissue taking the place of a degenerating higher type. The process is really a different one from true cirrhosis.

Sieveking, after examining twenty livers of atrophic cirrhosis, came to the conclusion that the fibrosis was a primary process. On the other hand, Markwald contends that the first change is a necrosis of the liver cells. The probability is that in the majority of cases the fibrosis is a primary productive process, and as such is due to some slowly acting irritant coming from the gastro-intestinal tract and manifesting itself along the portal vein.

In other cases, not a large number, there may be a primary or possibly a concomitant destructive or atrophic change in the liver cell.

Changes analogous to the portal phelbitis may also be seen along the arteries.

2. Parenchymatous changes. The liver lobules have lost their characteristic shape and cellular arrangements, various numbers have been caught and walled off by connective tissue, giving the appearance of little raised islands. The individual cells are compressed, sort of huddled together and more or less atrophied—"compression atrophy." Occasionally there will be a kind of compensation hypertrophy, giving rise to little groups of new liver cells. Rarely these little groups of new cells may go on to adenomatous or adenocarcinomatous degeneration. The liver cells may also show deposition of pigment of various kind. The biliary canaliculi do not show any marked change except in a mixed type.

The pancreas frequently show cirrhotic changes, as well as fatty infiltration and degeneration. The gland cells show various degenerations and the islands of Langerhans show pigmentary deposits. Where the pancreas is involved diabetes may develop as a complication. The spleen is usually enlarged and the capsule thickened.

VARIETIES OF ATROPHIC CIRRHOSIS

Acute.—This is sometimes spoken of as red atrophy of the liver. The gross appearance is somewhat like acute yellow atrophy. The liver cells show marked fatty degeneration. Around bunches or islands of liver cells will be reddish congestive tissue and more or less leukocytic infiltration. There are signs of active inflammation. Death takes place in two or three months. It is a matter of doubt with some whether this is really a true portal cirrhosis. There is usually a history of excessive alcoholism.

Chronic.—1. Fatty cirrhosis. The organ is usually rather large and not very nodular. The fibrosis is moderate and the parenchyma shows fatty degeneration. Ascites is not common. This form may not be recognized till post-mortem.

2. Atrophic cirrhosis — "hobnailed" liver. This is the most characteristic form. The organ is much reduced in size and may not weigh more than 10 ounces. The surface is nodular, leathery and shows glistening bands of connective tissue. Ascites is the rule. The spleen is usually enlarged and on section is yellowish red.

3. Cirrhosis from gastro-intestinal autointoxication. This is usually of long standing, though it may progress rapidly. The liver is usually large or not much atrophied. It is hard and not very nodular. There is usually absence of jaundice, ascites, splenomegaly and collateral circulation. There is no history of alcoholism.

4. Cirrhosis with secondary parenchymatous hypertrophy. This is the so-called hypertrophic alcoholic cirrhosis of the French authors, and must not be confounded with hypertrophic biliary cirrhosis. The liver is normal in size or enlarged. It is nodular, some of the nodules being quite large, due to overgrowth in some of the lobular masses. On section the cut surface is smoother than in Laen-

nec's cirrhosis. The fibrous tissue is arranged in the portal and hepatic spaces in reddish rings. The cirrhotic tissue is marked by numerous capillary angiectases and newly formed bile capillaries. It is one of the varieties most amenable to treatment.

5. Cirrhosis with adenomatous or adenocarcinomatous degeneration.

6. Mixed cirrhosis. This is not an uncommon variety. Besides showing a multilobular fibrosis, there is an abundance of new biliary canaliculi. The liver is usually not very small.

7. Cirrhosis with pigmentation. Considerable anemia may be present. Normally the liver contains iron. A ferruginous pigment is deposited in the portal tissue, or may be all along the capillary walls and in Kupfer's cells. It is frequently found in a mixed cirrhosis. It is considered by many as a simple cirrhosis, complicated by what von Recklinghausen called a "hemochromatosis." The pigmentation may also be found in the smooth muscle fibers, especially of the intestines, lymphatic glands, the spleen and the pancreas. Lubarsch looks on it as a result of hemorrhage, either large or small capillary. There may also be pigmentary deposits in the skin. Pigmented cirrhosis may be a complication of diabetes. .

8. Cirrhosis with calcification. Taggart has described a case in which calcareous matter was present to such an extent that the saw had to be used in making sections.

SYMPTOMS

It is a question whether cirrhosis is ever recognized in its early stage. There may for a long time be no symptoms at all, or very few, or only such as apparently refer to the gastro-intestinal tract. Says Dr. Saundby:

> The point, up to which I am leading you, is that cirrhosis of the liver does not cause any marked clinical symptoms in its earlier stages, and passes for years unperceived. In fact, men of apparently good health have been known to die suddenly from some other cause, or have been seized with a first but fatal hematemesis, and, post mortem, the liver has been found to be in a state of extreme contracted cirrhosis.

1. Alimentary tract. The tongue is usually coated, sometimes quite furred, and it generally refuses to clear after usual measures. In the late stage of the disease the tongue gets a very red and raw-meat looking appearance, which may extend over the buccal mucous membrane and the margins of the lips. There is more or less digestive disturbances coming on by spells. Later there may be spells of nausea and vomiting, especially in the morning. Gas is frequently a very troublesome factor. As Portal said, "the wind precedes the rain." The bowels are irregular, at times alternating between constipation and diarrhea. The stools are apt to show varied consistency, part clayey and part normal. They will also, especially in the later stages, be very foul. These may be the only symptoms for years.

2. Circulatory system. There may be very little disturbance or very great; but usually not till late in the process. It depends largely on obstruction to the portal circulation and development of collateral circulation. With the phlebitis, periphlebitis and thrombosis of the portal vessels, the blood has difficulty in getting through the liver and reaching the heart. It tries to overcome the obstacles by establishing new channels. This it does by making use of and enlarging the so-called accessory portal system of Sappy (of which Sappy describes five groups) and various others. The most important are:

(*a*) Branches which pass in the round and suspensory ligaments and anastomose with the mammary and epigastric veins.

Sometimes a large one passes out at the hilum through the round ligament and anastomoses with the epigastric veins at the umbilicus. This may become much enlarged and form the so-called "caput medusæ."

(*b*) Esophageal veins anastomosing with the gastric veins. One or more of these at the lower end of the esophagus may form large varices which may break and cause dangerous or fatal hemorrhage.

(*c*) Hemorrhoidal veins anastomosing with the inferior mesenteric veins. Hemorrhoids are often a troublesome symptom.

(*d*) The veins of Retzius, uniting the portal radical in the intestines and mesentery with the inferior vena cava. These last are all retroperitoneal and frequently become enormously enlarged.

There may also be general circulatory disturbances. Hemorrhages from various reasons may occur, no doubt mainly due to diseased vessel walls. Hematemesis is not uncommon and may be very severe. Blood may also be passed by the bowels (melena). Blood examinations show nothing characteristic.

There may be a venous hum in the epigastric region. There is at times a systolic murmur at the apex, which post-mortem examination has proved to be functional.

The urine does not show much of importance, except that urobilin is present in much-increased amount. Urea is decreased, but urates increased. There may be albumin and casts.

Ascites. This when present is a very important symptom. It develops rather late and very gradually as a rule. It is present only in somewhat less than half the cases. "Much of the failure of clinicians to recognize portal cirrhosis is due to the erroneous belief that ascites almost constantly develops. It does not by any means" (Adami). Post-mortem examinations at St. George's Hospital, London, showed ascites present in 30 per cent. of cirrhosis (Rolleston and Fenton); at Manchester Royal Infirmary in 56 per cent. (Kelynack). The ascitic fluid is alkaline, thin, clear or bile stained, with a specific gravity of 1.010 to 1.015.

The pathogenesis of ascites in atrophic cirrhosis is still more or less *sub judice*. Formerly it was held to be due to mechanical obstruction in the portal circulation. Accordingly, it was thought that it was controlled by the collateral circulation.

The mechanical obstruction no doubt has a great deal to do, but not all. There may be ascites quite early, before there has been any obstruction formed in the intrahepatic circulation. Again cirrhosis may reach an advanced atrophic stage without any appearance of ascites, as proven by Hanot and Lecorche. Perihepatic and peritoneal lesions have been suggested as the cause. Leudet found that chronic peritonitis in alcoholics may exist without any cirrhotic envolvement; in cirrhosis there are always found (Dieulafoy) perihepatic or peritoneal lesions. "This latent peritonitis betrays itself sooner or later by abundant ascites." (Dieulafoy.)

Another possible cause is tuberculosis which is not uncommonly associated with cirrhosis. The peritoneum, then, probably plays an important rôle in the production of ascites in atrophic cirrhosis. Dieulafoy also suggests another factor, namely phlebitis in the mesenteric and peritoneal branches of the portal vein. The probability is that these are all in a measure contributory factors.

The liver dulness may be normal, increased, or considerably decreased. When ascites is present the liver dulness may not be made out at all.

Enlargement of the spleen is more frequent than ascites. Out of 172 cases,

Thierfelder found the spleen not enlarged only in thirty-nine cases. Hence, this symptom is a valuable one. Oestreich and Weber believed that this enlargement is due not so much to portal obstruction as to toxemia.

Edema of the feet and legs is fairly common in the late stage. It generally follows ascites, but may precede, in which case Osler believes it is due to general malnutrition.

There will sometimes be an excessive development of nevi, or cutaneous pigmentation, or petechiæ; but these are not important symptoms, as they may be found in almost any condition.

Pain is not a very prominent symptom and is frequently misleading. It is sometimes felt in the right hypochondrium in the early stage, often accompanied by a feeling of distress in the epigastrium. There is frequently present referred or reflex pain; instead of in the liver region the pain may be, as in my case, mainly in the left side of the abdomen.

Jaundice is usually present in a mild degree, shown by a slight icteroid tinge in the conjunctiva. It may become quite marked and is due to a catarrhal affection of the bile ducts. The skin is generally pale, later becoming sallow. Terminal jaundice, coming on shortly before death, is due to areas of parenchymatous disturbances and fatty degeneration.

In the last stage there may be quite marked nervous symptoms, such as extreme restlessness, delirium, sleeplessness, stupor and coma.

DIAGNOSIS

In the early stage a certain diagnosis is practically impossible. The symptoms, when present, that are more or less characteristic are; hemorrhages, ascites, development of collateral circulation, enlarged spleen, absence of jaundice, or if present, very slight, reduced liver dulness (presence of ascites will generally make it impossible to outline the liver); a red, raw or glazed tongue, and a long history of dyspeptic troubles and flatulence. A history of alcoholism will be suggestive, but the absence of it does not exclude cirrhosis. Urine examination may show increased amount of urobilin and decrease of urea. If the patient is given 4-5 ounces of sugar syrup there will probably develop transitory glycosuria. There is no rise of temperature, as a rule, except possibly towards the last. It may take years before a certain diagnosis can be made.

It should be differentiated from the following conditions:

Hypertrophic biliary cirrhosis. Liver dulness is markedly enlarged and jaundice is pronounced and persistent. There is usually no ascites, no collateral circulation and no hemorrhages.

Syphilitic cirrhosis. In this condition the liver is generally and irregularly enlarged. There is usually history of syphilis, or some evidence of same. Condition is influenced by specific treatment.

Portal thrombosis. This may be a complication of cirrhosis. The spleen may suddenly enlarge, and there is a rapidly rising ascites. It is a sudden and serious condition.

Perihepatitis. There is probably a history of chronic gastric ulcer. If ascites, tapping will have to be repeated many times. It is often difficult to deferentiate, as it may be a complication of cirrhosis.

Cancer of the liver. The liver increases in size, is generally tender, there is rapidly increasing cachexia and pronounced jaundice.

In senile atrophy of the liver there is a simple decrease in the organ, but no ascites and no jaundice.

Tubercular peritonitis. Symptoms vary much, but there is generally some temperature, and some evidence of tuberculosis in other organs.

COURSE AND PROGNOSIS

There is no doubt that cirrhosis may in some cases last for years with periods of intermissions, although the process may in some cases be very acute and prove fatal in three months. If proper treatment is instituted early, the progress may be arrested. Ascites may be cured by tapping.

Death occurs either from hemorrhage, toxemic exhaustion or from some intercurrent disease.

Tuberculosis and right sided pleurisy are among the most frequent complications.

TREATMENT

The only treatment in cirrhosis that is worth the name is *milk diet.* That must be insisted on, and is really very effective. Good, clean, fresh milk should be ordered, as much as the patient can well handle, and if the patient is much weakened he should be put to bed and kept at absolute rest.

All kinds of alcoholics, spices and coffee must be interdicted. If the patient responds to the treatment the distress and pain will gradually disappear and the tongue become more moist and natural.

The change to more of a variety of food should be very gradual and cautious. A so-called purin-free diet is probably the best.

In many cases the treatment can be nothing else but palliative and symptomatic. Dieulafoy recommends the use of potassium iodide, three grains a day for a long period.

Warm baths with massage may do some good. If there is ascites, tap, and tap again if needed. It may ultimately cure, or at least make the patient comfortable.

The bowels should be kept active by the use of some alkaline mineral water, such as Carlsbad. The use of colagogues would seem to be indicated, but there is no doubt that if used too strong and too freely they will do harm. The use of intestinal antiseptics seems rational, especially in view of the fact that gastro-intestinal autointoxication is a common etiologic factor. The sulphocarbolates are probably as good as any. I also like creosote in small doses. Guaiacol carbonate is also good.

Of surgical measures Talma's and Morrison's operation may be mentioned. The aim is to relieve the ascites by establishing a collateral circulation between the veins of the omentum and the abdominal wall. They are mostly failures.

Eck has suggested the establishment of a direct communication between the portal vein and the inferior vena cava. To my knowledge it has never been actually tried.

POINTS FOR EMPHASIS

1. The question of the use of alcohol should not figure too much in our making a diagnosis.

2. Cases with a long history of irregular "dyspepsia," which suddenly develop severe hematemesis are very likely to be portal cirrhosis.

3. As it seems that in at least 90 per cent. of the cases the enemy in portal cirrhosis comes from the gastro-intestinal tract it would appear to be good policy to take good care of that tract, keep it clean and save the liver.

4. A cirrhotic patient, unless already moribund, should not be "hurried off" by a rash and absolutely hopeless prognosis. He should be given the benefit of rest, good milk and the trocar if needed; he may yet go on living for some time.

5. The trocar seems to do all that the scalpel can do, and with much less risk to the patient.

REPORT OF CASE

Male, aged 56; stature above the average; bony and rather robust looking before attack of last illness.

Family History: Father died at age of 75 following a stroke of paralysis. Had always been well and strong, except for a cancer of the throat, which is said to have been cured. Mother had been a well and strong woman and died of old age at 81.

Personal History and Habits: Married and several children. Had been an energetic worker, though not exposed to exceptional hardships. Last occupation, office work. Habits always good. Never addicted to alcoholics of any kind, and never used tobacco but in small amount. Of course, these are "testimonies" by relatives; but I have no reason to doubt them.

Previous Illness: He had never been seriously sick; but for the last six years he would get spells of "stomach trouble," which did not last long, and between times would feel well. At times, too, he would put his right hand to his back, straighten up and complain that he did not feel quite right there.

In August had pain in stomach and bowels that lasted about a week. He was then yellow, but that disappeared.

Last Illness: On November 19, 1911, soon after breakfast he was suddenly taken sick with pain in the left epigastrium and extending down the left side nearly as far as crest of the ilium. The pain seemed to go through to the back on the right; but no pain in the right side anteriorly. He vomited some. His wife stated that his color became almost green. This severe pain lasted about 4 hours then eased up

On the evening of December 10 I was called. some, but he did not feel well after that.

I found him extremely restless and with severe pains in the left side of the abdomen. Pain rather indefinite as to localization. Some dyspnea. Slight tinge of yellow in sclera. There was evidence of considerable loss of flesh. Had been unable to eat anything except lightest food since taken sick, partly because of nausea and vomiting, but apparently more from fear of bringing on these things and pain. Tongue was bright red and raw, but not coated. The margins of the lips were red and chapped. Temperature normal, pulse about 65 and weak. There was a moderate ascites which prevented a satisfactory examination of the abdominal organs. Some tympany in right upper quadrant. Heart working fairly well, but apex beat almost as high as third interspace. Obstinate constipation. Stools very foul. I was lead to believe that the condition was some malignant growth in the abdominal cavity. I gave an unfavorable prognosis. He had, however, not been thought seriously ill. I ruled out cirrhosis on account of the clean history, absence of hemorrhages, and rather sudden onset of symptoms. A hypo of H-M-C relieved the pain and gave him an all-night sleep. The next few days he was some improved.

A chemical examination of the urine revealed nothing of interest. The extreme restlessness kept up, but the severe pain did not return. About two days before death he became drowsy, partly unconscious and finally comatose. He died on December 23. Partial post-mortem showed the following: The abdominal cavity partly filled with clear fluid, intestines were normal except that ileum in places seemed thin and bluish (sclerosis?) Omentum was drawn up into a bunch and slightly adherent to under surface of liver, being intensely yellow nearest the liver. The liver gave the surprise. It was extremely small, hard, and typically hobnailed. The entire organ was uniformly involved. The spleen was considerably enlarged, bluish in color and with a much thickened capsule. The pancreas showed extreme fatty degeneration. Kidneys normal. Pleuræ perfectly free and lungs normal. Heart rather small and adherent to the pericardium posteriorly by an area the size of a quarter. This no doubt accounted for high apex beat.

Microscopic examination of liver:

Hackley Hospital Laboratory:

Lobe of liver shows (1) increase in thickness of capsule; (2) great increase into broad bands of connective tissue especially that surrounding the bile ducts; (3) Fatty degeneration of many liver cells; (4) very deeply staining nuclei in large hepatic cells in other places (attempts at repair?); (5) lobules cut into by the connective tissue and almost obliterated. (6) Hemosiderosis Diagnosis—Atrophic cirrhosis with fatty degeneration.

(Signed) L. N. Eames.

Points of interest:

1. As far as can be ascertained there is no history of excessive use of strong drinks.

2. The distribution of pain mainly on the left side.

3. There is no history of any hemorrhage either by stomach or bowels.

4. The fatty degeneration probably accounts for the rapid course after his illness apparently started. He had no doubt had the cirrhotic condition for about six years.

THE FUNCTIONAL TEST IN SURGICAL DISEASES OF THE KIDNEY*

ERNEST K. CULLEN, M.D.
Detroit

A comprehensive consideration of the various functional tests would necessitate an exhaustive paper and consequently only the more important ones will be considered. It is our intention to discuss the value of these only in those diseases of the kidneys which require surgical intervention.

FUNCTIONAL EFFICIENCY OF THE KIDNEYS

In discussing the functional efficiency of the kidneys, Wood[1] says:

"The exact determination of the functional efficiency of one or both kidneys acting together is of interest from two points of view: first, because of the great importance of these organs as the channel through which the excretion of the nitrogenous substances, salts and fluids of the body largely take place and the marked symptoms which arise when this excretion is interfered with; and second, because one healthy kidney is capable of taking over the work of the other, thus permitting the surgical removal of the diseased kidney."

Two general theories of the elimination of the urine have been advanced, one by Ludwig, the other by Bowman.

The former is based on the phyical process of filtration and diffusion. As the blood passes through the glomeruli, water containing the organic and inorganic salts is filtered through. As this fluid passes along the convoluted tubules its density is increased by diffusion with the surrounding lymph stream. The adherents of this view have modified it slightly, believing that the cells of the convoluted tubules possess some selective power.

Bowman maintains that both the glomeruli and cells of the convoluted tubules have a selective action. The water, organic and inorganic salts are excreted by the glomeruli, while the urea and allied bodies are eliminated by the epithelium of the convoluted tubules. Heidehain, who supports Bowman's theory, has shown experimentally that the cells of the convoluted tubules are capable of secreting indigo-carmine.

Though there may be differences of opinion as to the individual function of the glomeruli and the cells of the convoluted tubules, still it is certain that damage to these structures is attended with diminished renal activity.

It is the determination of the degree of this renal function which is the chief rôle of the various tests. The estimation of the combined function of the two kidneys is a simple procedure, but this gives no index of the efficiency of the individual organ. This latter can be ascertained only by obtaining urine directly from each kidney, catheterization of one or both ureters being necessary. Under normal conditions each kidney performs the same degree of function. The effect of catheterization is occasionally evidenced by a diminished function. This, however, is of little moment in the determination of the comparative efficiency of the two organs, as each is usually affected to the same degree.

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

1. Wood: Chemical and Microscopical Diagnosis, 1909, p. 622.

The presence of albumin and casts in the urine, while of great importance in the diagnosis of renal disease, gives no index of the functionating power of the kidneys.

For many years the output of urea has been considered of great value in estimating the degree of renal function. Careful studies of individuals on a constant diet have shown that the output is variable during the twenty-four hours. The amount excreted under usual conditions, depends largely on the composition and quantity of food taken and is also influenced by the amount of exercise. Though the combined output from the two kidneys over a definite period of time may be of uncertain value, still the amount eliminated from each kidney simultaneously serves as an index of the relative functionating power of each organ, under exactly the same conditions. We cannot, however, determine the absolute functions of each organ for the exact amount of urea in the blood is not known.

Observations on the excretion of chlorids under normal and pathological conditions have not given data of particular value in the determination of the permeability of the kidneys.

CRYOSCOPY

Considerable importance has been attached by many observers to cryoscopy of the blood and the combined or separated urines. Kummel[2] states that in a large number of cases he has never been deceived as to the efficiency of the kidneys, by taking the freezing point of the blood. Casper and Richter[3] consider of great value, cryoscopy of the separated urines in conjunction with the phloridzin test. Cryoscopy is certainly a valuable aid in the estimation of renal function, but skill and delicate instruments are essential to accurate determination of the freezing point. Conditions of diet must be taken into account and it requires an expert to make the proper deductions.

PHLORIDZIN

The use of phloridzin to determine the efficiency of the kidneys in the excretion of sugar has been extensively resorted to, but the results have been so variable that one hesitates to draw any definite conclusions from the findings.

POLYURIA TEST

In 1900 Kovesi and Rotschlug,[4] pupils of Koranyi, suggested the induction of a polyuria to determine the renal efficiency. Their observations were limited to the studies of the urinary output from the two kidneys. Albarran and Guyon[5] applied the principle to a study of the urinary output from each kidney simultaneously and as a result we have the *"polyuria test."* It was found that the kidneys with a severe grade of surgical disease excreted a fairly constant amount of salts and water during the twenty-four hours. On the other hand the output of the normal kidney was subject to considerable variation. On these findings was based a belief that the normal kidney altered its functional capacity according to physiological demands, while a diseased kidney, working under a strain, is at its full capacity all the time.

The test as elaborated by Albarran and Guyon is essentially as follows: The patient should eat nothing for four hours prior to the test. The ureters are catheterized and urine collected during the first ten minutes is used for microscopical examination. The urine from each kidney is then collected separately at half hour periods for two hours. At the beginning of the second half hour the patient is given six or eight glasses of water. Al-

2. Kummel: Centralbl. f. Chir., 1903, xxx, 110.
3. Casper and Richter: Functionelle nierendiagnostik, Berlin, 1901; Arch. f. clin. Chir., lxvii.
4. Kovesi and Rotschlug: Ueberstorungen der wasserecernierenden; Thatigkeit diffuserkranken nieren, Berl. klin. Wchnschr., 1900, p. 321.
5. Albarran: Exploration des functions renales Poris, Masson, 1905.

barran considers the amount of urine excreted during the first period as the normal index. If the kidney is performing well, the amount excreted during the second period is markedly increased. During the third and fourth periods there may be a gradual increase or the amount may be stationary. From the extensively diseased kidney, the output during each period is more or less constant.

Many have objected to this test as it requires considerable time and is a strain on the patient. Also the production of a polyuria differs considerably in individuals. There is no question, however, that the test is a valuable one in determining the comparative excretory power of each kidney under the same conditions. As Keyes[6] aptly expresses it, "We put each kidney through its paces."

COLOR TESTS

Since the work of Achard and Castaigne[7] in 1897, the various so-called "color tests" have played an important rôle. These two investigators suggested the intramuscular injection of 1 c.c. of a 5 per cent. aqueous solution of methylene-blue. The time of appearance of the dye in the urine and the quantity excreted in a given period of time were noted. Later observers found that the chromogen was altered by alkaline urine, thus rendering the test inaccurate. The prolonged elimination of the drug, fifty to fifty-five hours, makes difficult the estimation of the amount excreted in a short period of time.

In 1903 Voelcker and Joseph[8] suggested the use of Indigo-Carmine, 4 c.c. of a 4 per cent. solution are injected intramuscularly. The time of appearance in the urine is noted and the quantity eliminated in a given time determined by the colorimeter. This test has been extensively employed and has proved of considerable value. The rate of elimination though faster than that of methylene-blue, is rather slow. The color is also affected by alkaline urine.

Rosanalin was introduced by Lépine[9] in 1898, and considerable subsequent work was done by Dreyfus[10] and Pugnat;[11] 65 per cent. to 95 per cent. of the drug is eliminated by the normal kidneys. It appears in the urine about thirty minutes after injection. The main objection to its use is the slow elimination. The point of maximum intensity is not reached until the end of the third hour and it is twenty-four hours before all traces of the drug disappear from the urine.

In any color test the substance which is unaltered by the urine, eliminated entirely by the kidneys, and that in a short period of time, is naturally the one of choice.

Such a drug—phenolsulphonephthalein—was suggested by Rowntree and Geraghty[12] in 1910. This substance was isolated by Remsen. Abel and Rowntree have found it to be non-toxic and excreted entirely by the kidneys; 1 c.c. of a solution of phenolsulphonephthalein containing 6 mg. of the drug is injected intramuscularly or intravenously. It appears in the urine normally within five to ten minutes after injection. The rate of excretion is rapid, 38 to 60 per cent. being eliminated in the first hour, and 60 to 85 per cent. by the end of the second hour. Readings are made with the colorimeter. There is the additional advantage that the drug is unaltered by alkaline urine. Phenolsulphonephthalein has been subjected to rigid experimental and clinical tests.

6. Keyes: Ann. Surg., 1910, p. 340.
7. Achard and Castaigne: L'examen clinique des functions renales. 1897.
8. Voelcker and Joseph: Funktionelle nierendiagnostik ohne ureterenkatheter, München. med. Wchnschr., nr. 48, t. 11, p. 2081.
9. Lépine: Lyon Medicale, 1898, lxxxvii, 251.
10. Dreyfus: Thèse de Lyon, 1898.
11. Pugnat and Revilloid: Arch. gén. de méd., 1902, viii, 19 (quoted from Rowntree and Geraghty).
12. Rowntree and Geraghty: Jour. Pharm. and Exper. Therap., July, 1910, i, 579. Ibid.: The Phenolsulphonephthalein Test for Estimating Renal Function. Jour. Am. Med. Assn., Sept. 2, 1911, lvii, p. 811-816.

Though we are yet too near its inception to give to the test the proper value, still one must admit that certain commendable features render it preferable to the other color tests thus far advanced. For the detailed description of the test the reader is referred to the original paper of Rowntree and Geraghty.

Personally, I favor this test, possibly because of more experience with it.

In order to illustrate the value of the functional test as an aid to diagnosis and the influence it may exert in the operative procedure, I wish to report in some detail four personal cases from the Gynecological Department of the Johns Hopkins Hospital.

TABLE

Case No.		Clinical Condition	Urine Excretion in One Hour	Microscopical Findings	Per Cent. of Urea (per Liter)	Time of Appearance of Drug	Per Cent. Excreted	Organis
I..	R. K.	Normal.	210 c.c.	Clear.	15.00 gm.	8 minutes.	40	B. typho
	L. K.	Gonococcal infection.	125 c.c.	Many white blood-cells.	2.00 gm.	10 minutes.	12.5	Gonocoo
II...	R. K.	Tuberculosis.	10 c.c. (pus)	Pure pus.	0.25 gm.	.....	0	None.
	L. K.	Normal.	240 c.c.	Clear.	11.00 gm.	8 minutes.	17	None.
III...	R. K.	Renal calculus; hydronephrosis.	115 c.c.	Numerous red and some white cells.	Not mentioned.	?	Faint trace.	B. coli
	L. K.		570 c.c.	Clear.	Not mentioned.	8 minutes.	46	None.
IV...	R. K.	Renal calculus; infected kidney.	20 c.c.*	Numerous white blood-cells.	Not mentioned.	11 minutes.	12.5	B. coli
	L. K.	Normal.	30 c.c.	Clear.	Not mentioned.	9 minutes.	21	None.

* Test taken immediately after anesthesia.

CASE REPORTS

Case 1.—Gyn. No. 17232. S. W., colored, female, aged 48, married, admitted January 5, 1911.

Complaint.—Irregular attacks of pain in left flank.

For the past thirteen years there have been irregular attacks of pain in the left flank. These at first occurred at intervals of three to four months, but during the past two or three years, the attacks have been much more frequent. The pain was sharp in character, commenced in the left renal region and radiated along the course of the ureter to the bladder. At times the pain was severe and associated with nausea and vomiting. There was some slight increased frequency of micturition and the patient occasionally noticed "corruption" in the urine. On admission the temperature was 99 F., the pulse 92 and the general condition good. Deep palpation in the left flank caused slight pain. The kidney was not palpable. The urine was cloudy, acid, sp. gr. 1015 albumin present in small quantity. Microscopical examination showed numerous white blood-cells. The leukocyte count was 7,400. The *x*-ray examination was negative as was also the ophthalmic tuberculin test.

Cystoscopic Examination.—The bladder wall was normal in appearance. Both ureters were catheterized. cultures taken from each kidney and the urine collected for examination. The phenolsulphonephthalein test was then made and the results obtained are given in the accompanying table.

Operation.—Jan. 11, 1911. Nephrectomy and partial ureterectomy.

The kidney, which was delivered through the lumbar incision, was found to be densely adherent, slightly enlarged and the surface covered with numerous scars. The walls of the pelvis and upper portion of the ureter were markedly thickened. Although the kidney was functionating the gross appearance made nephrectomy imperative. On section the kidney showed numerous thick walled abscesses. Lining the pelvis were white plaques of thickened epithelium, resembling leukoplakia buccalis. Microscopical examination showed extensive chronic inflammatory changes. Convalescence was uneventful.

A very interesting feature of the case was the finding of gonococci in fresh smears from the

pus in the abscess cavities. In stained histological sections these organism were also found in the tissue. Cultures from the opposite kidney showed an organism with the characteristics of *Bacillus typhosus*. About twenty-five years ago, the patient had what appeared to be an attack of typhoid fever. (This case was reported last year by Dr. Nixon[13] of the gynecological house staff.)

Case 2.—G. B. Gyn. No. 17217, colored, female, unmarried, aged 23, admitted Jan. 2, 1911.

Complaint.—Backache, pain in lower abdomen, hematuria. About four months prior to admission there developed a dull aching pain in the lower abdomen. There were marked dysuria, hematuria, and at times vesical tenesmus. The symptoms gradually increased in severity and a rather severe backache developed. This appeared in the lumbar region and was not definitely confined to either side. On admission the temperature was 101 F., pulse 108. The general condition was good and examination of the chest showed the heart and lungs clear. The abdomen was symmetrical. Deep palpation over the bladder caused considerable pain. Neither kidney could be palpated but in the right flank there was marked muscle spasm and any attempt at palpation or percussion caused pain. This area of tenderness extended from the margin of the ribs to the level of the umbilicus, anteriorly to within 4 cm. of the median line and posteriorly to the spine. There was no corresponding area of tenderness on the left side. The urine was cloudy, reaction acid, sp. gr. 1022, albumin plus, and on microscopical examination numerous white blood-cells and red blood-cells were found. X-ray examination showed an enlarged kidney shadow but no stone.

Cystoscopic Examination Under Ether Anesthesia.—The bladder mucosa was diffusely reddened and around the right ureteral orifice there was considerable ulceration. The right ureter was catheterized and the urine from the opposite kidney collected transversically. Pure pus was obtained from the right kidney. The urine from the left side was macroscopically clear, but on microscopical examination a few white blood-cells and red blood-cells were found. These were evidently from the bladder. For several days the bladder was irrigated b. d. with 2 per cent. boric solution. Considerable relief was experienced and on January 9th we were able to make a cystoscopic examination without anesthesia. The right ureter was again catheterized, the bladder then flushed with 2 per cent. boric solution and the urine collected transversically from the left kidney. The phthalein test was made and the data obtained are given in the table.

Owing to the high temperature it was deemed inadvisable to do the ophthalmic tuberculin test.

Operation.—Jan. 11, 1911. Nephrectomy and partial ureterectomy.

The kidney was exposed through a large lumbar incision and found to be six times the normal size and densely adherent. The pelvis was markedly distended and filled with pus. To facilitate nephrectomy, the pus was aspirated. The upper third of the ureter was thickened averaging about 1.5 cm. in diameter. This was removed with the kidney. On gross section the typical picture of extensive renal tuberculosis was seen. Histological examination confirmed the diagnosis.

The convalescence was slow, due to the breaking down of the incision. The general condition, however, gradually improved. The temperature and pulse slowly dropped to normal, the bladder symptoms disappeared and on May 16, the day of discharge, the urine was perfectly clear. On January 20, two weeks after operation, the urinary output for twenty-four hours was 1,430 c.c., the urea output 12 gm. per liter and the phthalein test 17 per cent. On May 6, four months after operation, the phthalein test showed 23 per cent. for one hour, a gain of 6 per cent.

In Case 1, it is interesting to note how the healthy right kidney assumed to a considerable degree, the function of the diseased left kidney, the total output of the drug being practically normal in amount. In Case 2, however, the total output was far below normal even for one kidney. The diseased organ had undoubtedly exerted an inhibitive influence on the healthy one. This is evident from the fact that within a few months after the removal of the diseased kidney, the functionating power of the remaining one had increased from 17 per cent. to 23 per cent. In Case 2 the clinical findings without the

13. Nixon: Gonococcal Infections of the Kidney, Surg., Gynec. and Obstet., April, 1911, pp. 331-341.

aid of a functional test, would certainly justify operative procedure. This case is cited, however, for two reasons; first to determine the value of a color test in showing diminution or absolute cessation of function, and secondly, as mentioned above to demonstrate the inhibitive influence a diseased kidney may exert on the function of the healthy one.

In the two following cases nephrotomy was performed.

Case 3.—Gynecological No. 16968, M. L., female, aged 19, unmarried, admitted Sept. 16, 1910, discharged Oct. 15, 1910.

Complaint.—Attacks of pain in the right flank; hematuria.

For five months prior to admission the patient complained of irregular attacks of pain in the right flank. The pain, though severe at times, was not sufficient to interfere with her daily work. There was some increased frequency of urination but no discomfort on voiding. A slight hematuria was continually present. On admission the temperature was 99.2 F., the pulse 100. General physical examination was negative except for slight tenderness on deep palpation over the right kidney. The urine was smoky, acid, sp. gr. 1030, albumin plus. Microscopically, numerous red blood-cells and some white blood-cells were found.

Cystoscopic Examination.—The bladder was perfectly normal. Both ureters were catheterized. Cultures taken and the phthalein test made. The data obtained are shown in the table.

On *x*-ray examination a small stone was found in the pelvis of the right kidney.

Operation.—Sept. 21, 1910. Exploratory nephrotomy. Removal of stone. The kidney was readily delivered through the lumbar incision. The pelvis contained a large quantity of urine and the entire kidney mass was quite resilient. Lodged in the upper end of the ureter was a small stone about 1 cm. in diameter. Displacement of this allowed the urine to flow into the bladder. The stone had acted like a ball valve. Instead of performing pyelotomy it was deemed advisable on account of the diminished renal function to do an exploratory nephrotomy. On opening the kidney with a silver wire, we found that the back pressure of the urine had reduced the medullary portion to about 4 mm. in width. The cortical zone still maintained a width of 6 mm. and appeared quite healthy. Consequently we saved the kidney, in the hope that its functionating power might be partially restored. The nephrotomy wound was closed with mattress sutures of catgut and a cigarette drain passed down through the incision to the renal pocket. The convalescence was uneventful, and on discharge three weeks after operation, the urine was clear and the patient free from pain.

Note.—During the past year several unsuccessful attempts have been made to have the patient return for another functional test.

Case 4.—Gyn. No. 17606. L. G., white, aged 19, unmarried, admitted June 24, 1911. Discharged July 19, 1911.

Complaint.—Intermittent attacks of severe pain in right flank.

One year ago the patient was suddenly seized with a severe colicky pain commencing in the right flank and radiating toward the bladder. To give relief, morphia in repeated doses, was necessary. There was associated nausea and vomiting, and considerable soreness over the right abdominal quadrant. A diagnosis of acute appendicitis was made and the patient operated upon. Six months later a similar attack occurred. Ten days prior to admission to the hospital, a third attack appeared and there was a rather persistent soreness in the right flank, and a general malaise. On admission the temperature was 99.8 F., the pulse 88 and the general condition fair. The heart and lungs were clear. Neither kidney was palpable, but slight pressure over the right renal region caused some pain. Examination of the urine showed a trace of albumin and numerous white blood-cells. No tubercle bacilli were found. The ophthalmic tuberculin test was negative. The skiagraph showed a suspicious shadow behind the twelfth rib, but a negative diagnosis of stone was given.

Cystoscopic Examination.—Under anesthesia, the bladder was normal. The right ureter was catheterized, the bladder flushed with saline solution and the urine collected transversically from the left kidney. One hour after catheterization, when the patient was able to drink some water, a phthalein test was made. The urinary examination and the results of the test are shown in the table.

Examination of smears and cultures were negative. A functional test the following day showed an output of 45 per cent. from the two kidneys. The anesthetic and possibly the cathe-

terization of the ureters, undoubtedly caused inhibition of the renal function.

Operation.—June 24, 1911. Exploratory nephrotomy. Removal of stone. The kidney was readily delivered through the lumbar incision and found to be one and one-half times the normal size. There was marked hyperemia and scattered over the surface were numerous small abscesses averaging 2 mm. in diameter. Exploratory nephrotomy was performed and the cortex found to be studded with several miliary abscess. The pelvis was slightly dilated and contained some purulent urine. The mucosa was roughened. On exploration of the pelvis, we discovered a small stone which corresponded to the shadow in the skiagraph. The pelvis was irrigated with salt solution, the small abscesses punctured with the knife and the nephrotomy wound closed with mattress sutures of catgut. A cigarette drain was passed down from the lower angle of the skin incision to the renal pocket. Convalescence was uneventful and on discharge three and one-half weeks after operation, microscopical examination of the urine showed only an occasional white blood-cell.

Gyn.-path. No. 16330. On histological examination of a section of kidney cortex miliary abscesses were found separated by areas of normal renal parenchyma.

In Case 3, although the renal function was almost *nil,* still the gross appearance of the kidney substance remaining influenced us in saving it. Fully two-thirds of the medullary portion had been destroyed by the back pressure of urine, but after removal of the stone, there was good reason to believe that the function of the cortical portion might be partially restored.

In Case 4, the gross appearance of the kidney would have justified nephrectomy. The phthalein test, however, showed the kidney to be performing over one-third of its normal function. On subsequent histological examination, although numerous miliary abscesses were found, still there were many areas of normal parenchyma. When these two patients left the hospital, the urine was clear, showing that the inflammatory processes had abated after removal of the stone.

I cite these two cases to demonstrate the importance of not depending on any one factor alone, but rather to consider all the findings before reaching a decision. There are other cases wherein the functional test has been of value in making a diagnosis and influencing the course of operative procedure, but time will not permit a consideration of these.

There may be some differences of opinion as to the comparative value of the various tests, but all must agree that the employment of one or more of these is of importance in deciding the question of operation. In all renal cases it is essential for the surgeon to know the functionating power of each kidney. Then he can proceed intelligently in the treatment of his patient. Some may be content to base their findings on one test. Others may wish to try various ones and make comparisons. While the latter is ideal, one must be guided by the condition and endurance of the patient. The test "par excellence" is the one which is efficient, simple and requires but a short time.

While great importance is attached to the use of the functional test, we must never omit the careful history and thorough physical examination of the patient. The determination of the renal function is but one link in the chain of evidence which will lead to the removal or saving of a diseased kidney.

415 Washington Arcade.

The Journal of the
Michigan State Medical Society
Published under direction of the Council.

PUBLICATION COMMITTEE:
A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
W. J. DuBOIS, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek.
(Ex-Officio)

EDITOR.
WILFRID HAUGHEY, Battle Creek.

EDITORIAL COLLABORATORS:
J. V. White, Detroit, 1st District.
George R. Pray, Jackson, 2d District.
C. S. Gorsline, Battle Creek, 3d District.
C. E. Boys, Kalamazoo, 4th District.
T. De Witt Gordon, Grand Rapids, 5th District.
C. B. Burr, Flint, 6th District.
Daniel Conboy, Bad Axe, 7th District.
B. B. Rowe, Saginaw, 8th District.
Robert E. Wells, Traverse City, 9th District.
F. E. Ruggles, Bay City, 10th District.
V. A. Chapman, Muskegon, 11th District.
E. H. Webster, Sault Ste. Marie, 12th District.
C. M. Williams, Alpena, 13th District.
Reuben Peterson, Ann Arbor, 14th District.

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A.M., M.D., Editor, 24 West Main Street, Battle Creek, Mich.
The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

Subscription Price $2.00 per Year, in Advance.

NOVEMBER

EDITORIAL

Members sued or threatened should communicate at once with the chairman of the Medico-Legal committee, SUGGESTING but not RETAINING a local attorney. Power to engage local attorneys rests entirely with our general attorneys. Complications have arisen in several cases, and considerable trouble and unnecessary expense followed, because members have not observed this rule.

AN AMBIGUITY

In our last number, the editorial headed, "Firearms and the General Public," was ambiguous in its first sentence. This article was written to follow immediately after the one on "The Fourth of July in 1912," which would have furnished the proper sequence. For some reason the printer changed the order.

DUES

The county societies are now holding their annual meetings, at which the dues for the year 1913 should be paid. Dues are payable to the state society on the first of January, and we would urge that all members make an especial effort this year to have their dues paid, so that they may be sent in promptly with the annual reports.

The House of Delegates at the Muskegon meeting, adopted the following resolution:

"We recommend that at the close of the year's work in December, your Society collect the annual dues for the ensuing year in advance, that the delinquents have until the first of April, or three months grace, or be dropped from the state rolls, at the expiration of that time, without further notice. A list of the members in good standing being published in the May Journal."

WHAT'S THE MATTER WITH MICHIGAN?

In our April number, page 258, we reprinted an editorial from *The Journal of the American Medical Association*, "What's the Matter with Michigan?" This editorial recorded the removal of "Professor" Samuels from Kansas to Detroit. In our May number we published the opinions of a few of the members of the Michigan State Medical Society, in answer to the editorial from *The Journal of the American Medical Association*. We are now publishing on another page under the caption "Samuels Returns to Wichita," a sequel which seems to show that Michigan is not so bad after all.

JOURNAL IMPROVEMENT SUGGESTIONS

It has been the policy of the editor (and of his predecessors) to make the Journal of as much interest and of as much value to our members as possible. This object we have had in mind in our editorial department, in our news department, in the miscellaneous items presented, and in fact, in the whole work of the Journal.

If any of our readers have any further suggestion in regard to the contents of the Journal, or the policy of the Journal; if any have any criticisms of the Journal as it has been conducted, we would be glad to hear them, for it is only by hearing and studying the wants of our readers, that we are able to render the best service. In asking for suggestions or criticisms, we do not promise to adopt all suggestions sent to us, but we do promise to give them careful consideration; and in this connection, we would be glad to know not only wherein we may have failed in best serving our readers, but in the special ways that the best service has been rendered, the object being to make and keep the Journal representative and useful. Original articles, county and special society reports and news items are always gladly received.

POLIOMYELITIS

Professor M. J. Rosenau, of Harvard, formerly of the United States Public Health and Marine-Hospital Service, announced at the recent International Congress on Hygiene, his successful experiments on the transmission of poliomyelitis. He was unable to transfer the disease through discharges from the nose and throat of infected individuals, but he was able to transfer the disease through the bite of the common stable fly, *Stomozys calcitrans.* Out of twelve healthy monkeys exposed to the bite of infected flies, six subsequently showed symptoms of poliomyelitis, three in virulent form. The diagnosis was confirmed at autopsy.

This is not a mechanical transmission, for it requires several weeks' incubation in the body of the fly after feeding on an infected individual, before the fly is able to transmit the disease. Thus poliomyelitis appears to be transmissible similarly to malaria, yellow fever, rocky mountain fever, etc.

It has been noticed that poliomyelitis is epidemic in circumscribed regions, and that victims of the disease may be transferred to hospital wards where it will not develop, while other cases will develop in the community from which the patient came.

These facts seem to bear out the suggestion of Dr. Manwaring, of Flint, published in The Journal, July, 1911.

MODERN QUARANTINE

This is an age of progress. The progress of modern scientific medicine, and the achievements of modern methods of sanitation are common knowledge. The world has never known an age in which more real advance in scientific knowledge has been wrought. Witness, in the medical sciences only, our mastery of diphtheria, malaria, yellow fever; witness our concept of the causation of disease; witness our knowledge of bacteriology, and asepsis.

Have we made the same advance in the matter of quarantine against infectious disease? Are we not in many instances blindly following the rules for quarantine laid down many years ago, aye, even generations? History tells of the black death which devastated Europe in the middle ages, and our present fear of small-pox is probably traceable to the wholesome respect for the disease bred in our very

bones through long centuries. Some time ago the writer read that in Minnesota trial was being made of not quarantining against small-pox, but of depending upon vaccination prophylaxis. Reports were that the experiment was a success, and that the people were quite generally vaccinated. We know of the argument that people cannot be forced to be vaccinated, that their constitutional liberty cannot be infringed; but we also know that government recognizes the rights of the many as above those of the few—this is the very foundation of all government. An era of compulsory vaccination would practically exterminate this disease. With such scientific methods quarantine against small-pox would be useless.

Is our method of quarantine in the case of diphtheria more modern? Is it nearer what our knowledge of the disease and its treatment would indicate? How many health officers quarantine a family during the acute stage of the disease, and for two weeks after the throat has cleared up? Why? Because the experience of our forbears taught us to.

But in these modern times we have antitoxin. It is well known that after the use of antitoxin the little patient is practically well the next day, and if sufficient antitoxin has been used the throat is entirely clear the second or third day. Why not raise the quarantine at this time? The fact that the membrane has disappeared, shows that the virulence of the germ has also disappeared. If there are any germs still present in the throat, they must be in an attenuated form, such that ordinary care would soon dispose of them. Letting our patients out of quarantine at this time would allow the bread producer about two weeks more time in which to recuperate family finances. "Quarantine is an imprisonment and its slightest extension beyond the necessities of the specific case is a violation of the rights of the citizen guaranteed by the Federal Constitution."[1]

Are there other customs followed in our modern quarantine methods, which might possibly be modified in the light of our present knowledge? In Michigan the county (or city) has undertaken to provide for certain quarantined persons in order to protect the other citizens. The county pays all quarantine expenses including maintenance of home, nurse and doctor for small-pox, a disease easily prevented by individual effort, but does not require this effort. In the case of typhoid fever, a disease preventable by combined (governmental) effort, does the county (or city) pay the same quarantine expenses including table supplies, heat, nurse, doctor? This contrast is stated by *Public Health, Michigan.* We have no specific suggestions to make—we merely open up the question and ask, Is it not possible to lessen and equalize the burdens of quarantine as now practiced?

THE WHITE ESKIMO AND CIVILIZATION

Vilhjalmur Stefansson has reported the discovery of white Eskimo near the Coronation Gulf, and announces a proposed appeal to the Ottawa government to pass a perpetual quarantine against the invasion of the white Eskimo, not only by the adventurer and the merchant, but even by the missionary. He points out that where ever civilization has touched the Eskimo, the Eskimo has disappeared. Measles has practically exterminated whole tribes, and the civilized man's vices have ruined the health of the survivors.

Stefansson prophesies that within fifty years after civilization reaches the white Eskimo, the white Eskimo will be extinct. His proposition to keep out missionaries

1. Editorial, Long Island Med. Jour.

is in fear that they would change the nomadic habits which require the building of a new snow house every two or three weeks, and introduce instead permanent wooden structures, and a changed life custom, thus giving opportunity for deadly germs to develop. Such is the report recently published in the public press.

What a severe arraignment of modern civilization! Former claims that civilization destroyed the native tribes were based largely upon other grounds, but we have been repeatedly told of the baneful influence of civilization upon simple peoples. If our boasted civilization is justly deserving of these severe criticisms is it not an indication that we are still far from the goal to which civilization should lead us?

INFANTILE SCURVY

The colder months of the year are approaching, following a rather warm summer, with hundreds and thousands of babies throughout the state necessarily fed on sterilized modified milk. During much of the time, especially in the larger cities, much of the milk on sale has not been suitable for the feeding of infants, because of the high bacterial content; but with the approach of cold weather, the milk should be of better quality, especially with a very much smaller bacterial count.

Within one year the writer saw two cases of infantile scurvy, and has had another reported to him, following the use of sterilized modified milk in an endeavor to give the baby milk which was safe for its consumption. Babies can do well on sterilized milk for a reasonable length of time, but if this is kept up too long, scurvy develops.

We merely wish to suggest that those superintending the feeding of babies see to it that the milk is not too thoroughly sterilized during the winter months, when much of the milk is comparatively safe. In the spring, when called to see little babies, who have lived for several months on modified milk, sterilized or pasteurized, and who are suffering from what the mothers call "rheumatism of the legs," with evidence of subperiosteal hemorrhage or spongy gums, think of scurvy. This suggestion is made because of the fact that scurvy is so often not thought of. Dr. W. P. Northrup in the *Archives of Pediatrics* reports "a good general practitioner of long experience, who had been doctoring 'rheumatism of the legs' for two weeks, who said: 'I had clean forgotten scurvy.'"

AUTO-INOCULATION IN TUBERCULOSIS

From a medical as well as a sociological standpoint the treatment of tuberculosis by so-called auto-inoculations promises to be of great value. It has been proved at several sanatoria that by controlling the excessive cough and by enforcing absolute rest most cases become afebrile, and the constitutional symptoms are greatly reduced in severity; or, according to Wright's theory, the amount of toxin passing into the blood-stream is lessened to a point where it can be neutralized by the antibodies present in the blood-fluids. Once this point is reached, by carefully controlling and gradually increasing the amount of exercise, an amount of toxin is liberated sufficient to stimulate the production of larger amounts of antibodies, but not sufficient to overwhelm those already present and cause constitutional symptoms.

Marcus Patterson and A. C. Inman have proved that by this method the opsonic index may be kept constantly above normal as long as the exercise allowed is not strenuous enough to pro-

duce headache, loss of appetite or temperature reaching 99° or over.

Recovery from any infectious disease can occur only when the specific resisting power of the individual is raised to the point where the invading organism is overcome by the increased number of antibodies. Therefore, the control and induction of auto-inoculation seems both practical and scientific.

This method of treatment is far superior to the former practice of rest and forced feeding, for the patients' minds are occupied, their muscles are hardened and they look forward anxiously to each increase in the labor allowed them. At Frimley, in England, a man before his discharge spends three weeks at his trade and goes home ready to take up at once his usual occupation, rather than to suffer from fatigue and excessive auto-inoculation as was so often the case under former methods of treatment. He is ready at once to support himself and his family, rather than to become dependent on public support. T. D. G.

STERILIZATION OF CRIMINALS AND INSANE

Several states have passed laws relative to the sterilization of criminals and defectives. These laws were passed after due consideration and were thought to be a necessity by the states that passed them. It is now proved that the operation for sterilization, particularly in the male, is practically devoid of any danger to the life of the individual. Anyone who has studied heredity in the least or who is at all familiar with the mendelian law of heredity cannot but say that sterilization certainly should be practiced under proper supervision in our state prisons and insane hospitals.

When one has constantly seen patients afflicted with a recurrent form of insanity go home and procreate only to return again to the hospital, it certainly is deeply impressed that something should be done. One can enumerate numberless cases in which the father and son or the mother and daughter are afflicted with the same form of insanity, without doubt hereditary. It is also known that defectives are prone to select defectives as mates, and of course this makes the chances for hereditary transmission greater. It is also known that the hereditary factor is greater in some forms of insanity than in others. It is particularly great in manic-depressive insanity, a type in which the individual usually recovers only to have other attacks later on. These patients are discharged when they recover from their attack and of course as soon as they return home procreation begins.

Statistics show that insanity is on the increase; if this is true something should be done. The way to stop an evil is at its source, and vasectomy certainly will help to do it. The question arises whether the operation is justifiable. There can be only one answer to this question in the light of the work that has already been done in this field. Nature is continually striving to rid herself of the unfit. Why not assist Nature in her work?

The state of Michigan is spending an enormous sum of money each year caring for the mentally afflicted and also for habitual criminals. No one will say that this is not proper as conditions now stand, but how about the future? The problem is becoming greater each day.

We have not only the increase in American population to think of, but also the increase caused by the enormous number of immigrants coming into the country. It has been recently shown that great numbers of defectives slip by the immigration officers each year. If they can keep out of an institution for three years they can become state charges after that time.

Every physician and scientific man should support a measure which means so much for the future of the race. Michigan should not be behind other states on this important question. It should be given serious thought, a law should be drawn up that covers the various points and it should be explicit. The physicians do not want a law that in one paragraph gives them the power to do the operation in certain cases and in another paragraph makes them liable to prosecution if they do it. They want facts stated plainly so that they can go ahead and feel safe.

Sterilization of defectives and habitual criminals in Michigan must come sometime, why not now? R. E. W.

IN MEMORIAM

Dr James T. Grace, formerly of Kalamazoo, died Sept. 13 at his home in Cleveland, Okla., from cerebral hemorrhage. Burial at Bay City, Mich.

Dr. Richard R. Lansing, of Detroit, a graduate of the Detroit College of Medicine, 1889, died Oct. 11, 1912, of acute intestinal trouble.

NEWS

Dr. Alex. M. Stirling was operated on for acute appendicitis at Harper Hospital, September 24.

Dr. Eugene Boise, of Grand Rapids, is spending some time in Europe, sailing about the middle of October.

Dr. C. E. Boys, of Kalamazoo was called to Kansas City, Kansas, September 23, because of the serious illness of his father.

Dr. H. Lee Simpson desires to announce the removal of his office from 27 East Adams Ave. to 27 East Grand River, corner Farmer St. Suite 508 Scherer Building.

Dr. Rudolph J. E. Oden, of Cadillac, Mich., has entered the Medical School of the University of Pennsylvania, and will spend the winter months as a graduate student in Anatomy and Pathology.

Dr. Udo Janus Wile, of New York, a graduate of Johns Hopkins (1907), has been appointed to the chair of Dermatology at the University of Michigan, succeeding Dr. W. F. Breakey, retired.

The Physicians and Surgeons of Northern New Hampshire tendered a banquet to Dr. Angus McLean and Dr. Neal L. Hoskins at the Mount Washington Hotel, Bretton Woods, N. H., Saturday evening, September 21.

Dr. Robert B. Harkness, of Houghton, secretary of the Houghton County Medical Society, is spending a year in Europe. Dr. Alfred LaBine has been elected secretary of the Houghton County Medical Society to fill the vacancy.

Dr. Benjamin A. Shepard of Kalamazoo announces the removal of his office from 411-412 Kalamazoo National Bank Building to 1005-1006 Hanselman Building, and that hereafter he will limit his practice to gastro-enterology and internal medicine.

Dr. Edward Goodwin, health officer of Bay City, was appointed by Governor Osborn as a delegate to represent Michigan at the National Public Health Association and the International Congress on Hygiene and Demography, held at Washington, September 18-21 and 22-28.

The Nobel Prize for medicine this year has been awarded to Dr. Alexis Carrel, of the Rockefeller Institute, New York. The award, it is announced, is made in recognition of his achievements in the suture of blood-vessels and the transplantation of organs. The Nobel prize is valued at $39,000.

The Detroit Homeopathic Medical College has been merged with the Cleveland-Pulte Medical College. Two years ago the Pulte Medical College of Cincinnati was merged with the Cleveland College. Last winter the college formed a union with Baldwin University, and is now known as the Medical Department of Baldwin University.

Detroit has now formally opened an open-air school for tuberculous children, the building of which, in the vicinity of one of the other schools, was so bitterly opposed last summer by the residents of the neighborhood in which it is situated. The school was given to the city by a Mr. Leland as a memorial to a member of his family and is known as the Nellie Leland Open-Air School for Subnormal Children.

At the recent meeting of the American Public Health Association, Dr. M. P. Ravenel, of the Wisconsin Hygienic Laboratories, stated that in the vicinity of large cities Lake Michigan is polluted with sewage seven miles from shore, at times heavily so. Intake pipes supplying drinking water for towns along the lake, he declared, should be carried out twelve to fifteen miles from shore, and sewage deposit plants should be provided in cities discharging sewage into the lake or rivers emptying into it.

The Detroit Society for the Study and Prevention of Tuberculosis has made a preliminary report on its open-air school in that city. At the time of the report there were twenty-one pupils. Warm clothing has been provided for the little students by the society, the outfit for each costing $25 and including an Eskimo suit, woolen sleeping bag, towels and wash cloths, tooth brush, dishes, cot, blanket, gloves and felt boots. The society pays for the food provided at the school and the Board of Health sends a nurse twice daily.

Collier's Weekly for September 28 contains an article, "The Cleanser," by Richard Washburn Child. This article shows very graphically the wonderful results obtained by Dr. Oscar Dowling of the Louisiana State Board of Health. He has undertaken to clean up Louisiana and has conducted a public health train all through the state. Louisiana may well be proud of the record which she is making. Other states may gather precedence and courage to carry on the fight against filth and the League for Medical Freedom.

Governor Dix of New York has appointed a commission on procreation, composed of a surgeon, a neurologist and a general practitioner. It is the duty of this commission to examine into the mental and physical condition, the record and family history of the feeble-minded, epileptic, criminals and other defective inmates confined in the state hospitals for the insane and other institutions, and when the board decides that an inmate is beyond reclamation, to appoint one of its members to perform an operation for the prevention of procreation as shall be decided by the board to be most effective.

Dr. Andrew P. Biddle was honored October 8 by being elected president of the Detroit Academy of Medicine, one of the most exclusive medical bodies in the state. The membership is limited to 40 members and since its organization in 1869 has numbered among its members Detroit's most prominent physicians and surgeons. Dr. P. H. Hickey, the retiring president, tendered the members a dinner at the Detroit Motor club. Other officers elected were as follows: Vice-president, Dr. Guy L. Connor, secretary-treasurer, Dr. Ray Connor; director for three years, Dr. L. E. Maire.

Since September 1 the following articles have been accepted for inclusion with New and Non-official Remedies:

Neosalvarsan (Victor Koechl & Co.).

Bismuth Betanaphtholate (Merck & Co.).

Staphylo-Strepto-Bacterin Mixed (H. K. Mulford Co.).

Antiplague Bacterin (H. K. Mulford Co.).

Slee's Glycerinated Vaccine Virus (Abbott Alkaloidal Co.).

Detre Differential Diagnostic Test (Cutter Laboratory).

Tuberculin O. T. (Dilution) Von Pirquet's Reaction (Cutter Laboratory).

Diphtheria Antitoxin (Cutter Laboratory).

A report from the Food and Drug Testing Laboratory, of the University of Michigan on samples of "Hamburger Steak," taken from Ann Arbor and out-of-town meat markets, shows the presence of sulphite of soda in every sample. "Sulphite of soda keeps the odor down," said Dr. W. S. Hubbard, instructor in pharmacy and chief in the laboratory, "and so the real condition of the meat is not discovered by the consumer. Meat, when it begins to give off a disagreeable odor, will be found to contain about one billion bacteria to the gram. If sulphite of soda is used, four times that number of bacteria may infect the meat before it will give off an odor, and by that time the meat

is in a pretty putrid condition. There is a law in Michigan against the use of sulphite of soda, but the law is not enforced. Sulphite of soda is extremely bad for a person to take into his stomach, if he has an excess of acid there."

Prescribing over a telephone, with the result that the clerk made a mistake was responsible for the death of Floyd Tillotson, one of Homer's leading merchants, who dropped dead as he stepped from his automobile several weeks ago, after a trip to Battle Creek, Mich. Dr. Ramsdell of Albion, whom Tillotson visited on his way home, testified at the investigation that he had ordered two ounces of a bismuth carbonate preparation for Tillotson over the telephone. This is a non-poisonous preparation. It was stated that instead of putting this up the clerk who took the order put up two ounces of barium carbonate, a poisonous drug. This was taken all at once by Tillotson and within a few hours he died in convulsions.

The jury brought in an open verdict finding that Tillotson came to his death because he had taken barium carbonate when bismuth carbonate had been prescribed. The clerk who made the mistake was not a registered pharmacist. —*Detroit Free Press.*

SOCIETY NEWS

THE GRAND TRAVERSE COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Grand Traverse-Leelanaw County Medical Society was held on the evening of September 17 in Dr. Minor's office. Seven members were present. The hospital project was discussed but no action was taken.

The program consisted in the discussion of interesting cases. Adjourned.

The regular meeting of the Grand Traverse-Leelanaw County Medical Society was held on the evening of October 1 in the offices of Dr. J. M. Wilhelm. Nine members were present.

Dr. O. E. Chase read a paper on "Ectopic Gestation." The paper was followed by a general discussion. An invitation was extended from Dr. J. D. Munson for the society to meet at the State Hospital in November. The invitation was accepted. Adjourned.

R. E. Wells, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

At the South Haven meeting, September 10, twenty-two were present.

Three applications for membership were presented.

Dr. Frederick R. Green, of Chicago, gave a very interesting talk on the "Mission of the County Medical Society."

"Morphin: Its Uses and Abuses" was discussed from its medical aspect by Dr. L. G. Rhodes, and from its surgical aspect by Dr. R. E. Balch. General discussion followed.

Mission of the County Medical Society

Abstract from Dr. Green's Talk

The ideal county society should embody the following points:

1. It should include every reputable practitioner within its jurisdiction.
2. It should have a central meeting place, so as to enable the largest number to attend its functions.
3. It should recognize duties to its members and duties to the public.
4. Organization should only be the means to the end rather than the end itself. Results are the real test of the county society.

Speaking further with reference to society's duty to members, Dr. Green said that it should be so valuable to members that they could not get along without it. It should make each doctor the best possible. The need for constant study on the part of physicians was illustrated by the later knowledge added to hookworm and yellow fever.

The reading of papers and discussions are important, yet may become too routine with too many papers and too little discussion by members as a whole. The courses of study which have been outlined by the A. M. A. are good guides for those societies which desire to take up systematic study. Each county society, however, must deal with its own peculiar needs.

The society should encourage the highest standard of conduct and respect between physicians. Ethics should be taught in medical schools more than it is at the present time. Owing to the lack of instruction of this nature

the students go out without any well-formed ideas of a proper kind.

The doctor stated that it is often true that the only people in a certain place not on speaking terms were the physicians. This condition he decried, and placed the blame on too little social activities among the members. A live county society, with the proper social activities, would do away with many jealousies.

The duty of the county society to the public is, according to Dr. Green, the most recent development of its functions, and assumes a very important rôle. Up to thirty years ago our knowledge of preventable diseases was practically nothing. Cases were treated without any significance as to the relation of that case to the causation of others of the same kind. No social phase of disease was recognized at that time.

These uncertainties have been largely changed by means of the microscope, physiologic chemistry and many investigators who have determined the cause of disease. The removal of this cause, however, is more in the hands of the people at large than it is with the physician; e. g., long hours of labor, poor housing, bad foods and water. Society, therefore, must first be told these facts by the physician, and then remove the cause itself. Society must, therefore, have the confidence of the physician, and must know that it is not selfish motives on his part that causes him to impart the information. Public instruction is, therefore, necessary.

The passing of laws without the moral support of the people would be ineffective. Public opinion can demand and will support such laws if it understands the need of them. The public does not need the technical instruction, but it should be given enough general knowledge so it understands why certain restrictions are asked with reference to the prevention of disease. The American Medical Association is aiding the dissemination of this knowledge by revising scientific information so that the public can understand it, and distributing this information systematically to 5,000 dailies, 2,000 weeklies in smaller places, many agricultural papers, and those of religious denominations. This helps to educate communities with reference to the facts of disease and health.

The question arises as to how the public may be instructed. This can be brought about through various channels already existing, such as churches, public schools and clubs. There are about 6,000 women's clubs alone whose members are interested in the betterment of conditions pertaining to health and social conditions.

Speakers are usually available from each county society, but in case an outside speaker is desired, he can be arranged for through the bureau of the A. M. A. having that work in charge. Several men of national prominence have agreed to use part of their time for this work, and no cost is entailed by the local society except for a meeting place.

Pamphlets in condensed form can be had from the A. M. A. office, treating of different health topics. Moving picture films are also to be had, and can be arranged for.

The following points should be impressed on the public:

1. Enormous advance in knowledge of disease and its cause.
2. The value of this information with reference to the extermination of disease, and its commercial value to the public.
3. The sincerity of the medical profession in using this knowledge in the prevention of disease and saving of life.
4. The medical profession alone, without the cooperation of the public, cannot improve health conditions.

These principles are in keeping with the general wave of conservation which prevails throughout the country to-day.

Discussion

In discussing Dr. Green's paper, Dr. Epler reported the work which has been done and which is planned to be done by the public health committee of the State society. This committee has been influential in getting many clubs to take up systematic work in health topics. The State Grange was also interested. The Kalamazoo Ministerial Alliance has also shown a disposition to make a systematic use of health topics in their pulpits. The eradication of typhoid, clean milk, and contagious diseases are three topics which have been selected for special study this year.

Dr. Epler asked the academy to give a banquet, to which many of the ministers and editors should be invited, and that a special class be organized to receive a course of lectures on general health matters.

Dr. O. H. Clark decried the time-honored method of having papers and discussions at the

medical meetings, and said that some new plan should be worked out for medical meetings. He stated that the public schools are where this information should be given in order for it to have the most value.

Dr. J. H. Crosby declared that public approval must first be secured before public instruction would be permitted. He then moved that the public health committee investigate the feasibility of Dr. Epler's requests concerning banquet and lecture and report at next meeting. Seconded and carried.

Dr. Green, in closing, endorsed the plans of the local committee.

Notes on Dr. Cooley's Paper

Read at the September 24th meeting

Pyelitis in children is often overlooked because of failure to examine the urine. It is too much trouble in these cases.

The form which has received most attention is the one in which the entire urinary tract is involved. It is especially common in the latter half of the first year. About two-thirds of the cases are in girls. From this fact it has been supposed that the point of entrance of the infection is the urethra. If not by this means, then they must enter either by the blood or lymph. There is no doubt that micro-organisms circulate in the blood more frequently than we suppose. Colon bacilli have been demonstrated in the blood of babes with gastro-intestinal disease. The lymph route has not received much attention. The general resistance of the patient is of great importance. The cases are very common in the poorly nourished also. Any malformation of the tract increases the liability to infection. Over 80 per cent. are due to the colon bacillus.

Symptoms vary greatly. In the little baby one is likely to observe nothing but fever, with, perhaps, such vomiting as is the common accompaniment of any infection. Fever appears suddenly and reaches a high degree at once—104 or 105 F. The child presents all the appearances of a grave intoxication but no localizing symptoms except it be increased frequency of urination.

If gastro-intestinal symptoms occur, the child may present all the symptoms of a severe typhoid case. If the bladder is chiefly involved, urination is attended with evidence of great pain.

The progress of the disease varies in accordance with the patient's previous condition and capacity for resistance. Subjects of grave malnutrition or diarrheal disease succumb rapidly or go through a very prolonged and tedious illness. These cases often pass for tubercular meningitis.

In some robust children we may get a very different picture. Some have no symptoms except fever, and no diagnosis is made and little treatment given.

If the diagnosis is made it will usually be found that pus persists in the urine for five to eight weeks and even months and that the children are subject to return of fever for a day or so.

The urinary findings are very characteristic. With the colon infection which makes up the great majority, the urine is acid; with other infections it may be alkaline. It is seldom bloody or smoky. The odor is strong. Albumin is roughly in proportion to the amount of pus. Casts are seldom seen.

In older children (five to ten years), especially girls, the child is taken suddenly with high fever, headaches, writhing and pain in side, especially right.

The diagnosis is easy, provided the urine is examined. Confusion may take place with typhoid and meningitis.

As to treatment, the ordinary handling with fluids, appropriate diet, urinary antiseptics are suggested. The vaccine treatment is strongly recommended and seems to lessen the fever and shorten the period of infection. The autogenous vaccine is superior to the stock, though the latter may be given while the former is in preparation.

On October 8, the Kalamazoo Academy of Medicine endorsed a resolution opposing the nomination and election of Mr. J. B. Balch of Kalamazoo as candidate for secretary of state —on the democratic ticket—on the ground that he has been one of the active forces favoring Medical Freedom and feel that anyone of this belief could not make a proper state official.

KENT COUNTY MEDICAL SOCIETY

The Kent County Medical Society resumed its regular meetings after the summer recess on September 25. Dr. Carl D. Camp of Ann Arbor was the invited guest of the meeting and read a paper on "Effects of Traumatism on the Spinal Column and Cord." After the meeting the society adjourned to the Peninsular Club for a smoker and social hour, as the guests of the *Bulletin*.

On October 9, Dr. W. F. Stone of Toledo read a paper before the society on "The Use and Abuse of Bacterial Vaccines." At this meeting a paper was also read by Dr. Ralph Spencer on "The Operative Treatment of Irreducible Fractures."

The average attendance for both of these meetings was seventy.

F. C. WARNSHUIS, Secretary.

OAKLAND COUNTY MEDICAL SOCIETY

The regular meeting of the Oakland County Medical Society was held on Thursday, August 1, at Deer Lake Inn, near Clarkston, Mich. The meeting was called to order by President E. A. Christian. After the reading of the minutes of the previous meeting, also several communications to the county society from the state society and other sources, a general discussion of the same followed, and a number of motions made and carried.

Dr. Frank Suggs, Highland Park, then took the floor and gave a very interesting talk on "Army Practice in Alaska, the Philippines and Other Places." His account of the far north was especially instructive and it was to be regretted that every member of the society was not present and have the opportunity of hearing so instructive and entertaining a speaker.

One new member, Dr. M. J. Ulothe of Ortonville, was added to membership of the society. After adjournment an unusually fine dinner was served by the hotel.

Taken as a whole the meeting was one to be remembered with pleasure for a long time.

J. B. CHAPMAN, Secretary.

WAYNE COUNTY MEDICAL SOCIETY

The opening meeting of the Wayne County Medical Society was held September 16, B. R. Schenck, retiring President, and R. C. Jamieson, Secretary, presiding. The program consisted in the reading of the various committee reports. The new officers were formally installed. E. W. Haass, President; L. J. Hirschman, Vice-President, and R. L. Clark, Secretary.

SECRETARY'S REPORT

MR. PRESIDENT AND MEMBERS OF THE SOCIETY:

As the past year has been the second one the society has passed in its new home, your secretary is not able to report such a remarkable growth as the society enjoyed the preceding year.

However, the increase in the number of members and the interest taken in the Medical Club still far exceeds that displayed before the society had its own home.

The growth of the membership has been steady and at a normal rate, while very few members have been lost to the society by death, transfer or resignation.

It may not appear from the figures that the financial condition of the society is on a firm basis, as the cash on hand is less than it was one and two years ago. But the reason for this is quite apparent if the detailed report is examined, which shows $2,150 paid from the dues to the board of trustees for the building fund during the past two years. This amount in the treasury would have made a balance far in excess of anything before, but it was considered wiser to apply this on the building debt than to allow it to remain idle.

During the year the society suffered an irreparable loss in the death of Dr. H. O. Walker, the President of the society. Dr. J. Flinterman will also be greatly missed by the society as well as Dr. D. N. Barrett.

The society loses seven other members: five by resignation, three of whom were active, Drs. W. H. Rogers, C. W. Meade, J. H. Patton; and two associate, Drs. J. O. Brake and A. N. Barrett of Ann Arbor; one by transfer, Dr. Fleming Carrow, and one by removal, Dr. Vincent Greco.

The membership at present is as follows:

		Not paid
Active	564	47
Associate	67	6
		53
Honorary	2	
	633	

The changes in membership are:

Members died	3
Members removed	2
Members resigned	5
	10

New members:

Active	81
Associate	33
On transfer	3
	117

A detailed report of the financial condition of the society follows:

Bulletin Expenses

Printing	$ 304.30
Mailing	276.91
	$581.21
Receipts	$319.50
Society Receipts	$2,918.00

Expenses

Stamps	$ 49.00
State Dues	1,667.50
Building Fund	900.00
Entertainment of Nurses	36.00
Stereopticon	10.00
Refunded Dues	11.00
Miscellaneous	25.67
	$2,699.17
Cash on hand Sept. 1, 1911	$ 393.08
Total Receipts	3,237.50
	$3,630.58
Total Expenses	3,280.38
Balance Sept. 1, 1912	$350.20

The retiring secretary has one suggestion to offer which may be acted on or not as the society sees fit. During the past years the work of the secretary and treasurer has been in the hands of one man, but with the large increase in membership which has taken place within the last two years the work has greatly increased, especially detail work. In other societies of as large a membership the work is divided between two men, a secretary and a treasurer, and I think that it would be only just to your secretary-treasurer of the future to recompense him for his time and work or else have two officers—secretary and treasurer.

R. C. Jamieson, Secretary.

REPORT OF BOARD OF TRUSTEES

Two years having elapsed on September 1 since the opening of this building to the profession, the present seems a good time to review the work done, and to be done. All outstanding indebtedness has been liquidated and we own the building and contents free and clear. The total subscription list of about $43,000, comes from three-fifths of the society as over two-fifths of the active members have as yet subscribed nothing. Of the subscribers, numbering just under 300, over fifty have paid in full, while thirty-nine have the full amount of their individual subscription still to meet.

The original intent of the subscription was to provide for the purchase and maintenance of a suitable building, but it is becoming definitely clear that if the unpaid balance is to be set aside for maintenance, additional funds must be provided for the auditorium and for the support of the library. During these two years we have spent an average of about $130 per month for maintenance, and an average of about $75 per month for the library. If the income from rentals be deducted from the maintenance expense, the net revenue of the society from dues should nearly make up the deficit (for maintenance).

The library requires the services of a trained librarian and eventually an assistant, the purchase of current medical periodicals and books and a large annual expense for binding. I think a conservative estimate of the sum needed for library purposes for the next ten years is at least $1,500 per year. Hence we need an endowment fund of $30,000 to $40,000 in order that the income may take care of the library. To provide for this endowment fund $20,000 in additional subscriptions from the members of this society is necessary. There remains the auditorium. This must be a combination auditorium and book stack, on strong foundations to provide for future growth. A guess as to the minimum cost of such a structure is $25,000; though $50,000 would more nearly meet our needs. It seems to the writer that it should be possible to raise the auditorium fund outside the active members, as a memorial to the medical profession of Detroit. There are many well-to-do Detroit families descended from physicians and many wealthy laymen interested in medical men or medicine.

These are the problems which confront the incoming officers who are pledged to do their utmost to solve them. It goes without saying that they will need the hearty cooperation and active assistance of each member of the society.

The undersigned, as secretary of the board of trustees, has disbursed moneys as follows:

Building (including interest)	$ 19,158.13
Taxes for 1909	227.88
Furnishings	1,508.56
Maintenance	3,163.55
Library	1,786.53
Collection Expense	164.56
Cash on hand Sept. 1, 1912	1,058.50
Total receipts	$27,067.71

Respectfully submitted,

The Board of Trustees,
Per F. B. Tibbals, Secretary.

REPORT OF RETIRING PROGRAM COMMITTEE

Your retiring program committee begs permission to present the following report:

The *Weekly* was published during the past year regularly once each week for thirty-six weeks, appearing on time with two exceptions.

Forty-eight speakers appeared before you, of these forty-eight speakers nine were guests of the society. One hundred and seven members were put on the program as discussors, all of these were members of the society. Numerous others enough to bring this number up to 150 took part in the discussions, thus there spoke before this society last year 198 persons.

Your committee, the better able to bring things promptly to issue as regards publication, early established the custom of lunching together on Tuesdays of each week—we find this a great aid.

A resolution passed by this society at an early meeting last year makes it obligatory on those reading papers or entering on the discussions to submit to the committee abstracts of their remarks. Many of the speakers and discussors were prompt in this respect, though many were not.

Your retiring committee cannot urge too strongly the full compliance with this resolution since we have no stenographic report and for any one member of the committee always to be on hand and be responsible is asking too much.

The total expense of issue for the year has been $581.21. The total income from advertising has been $460.25, leaving the total cost to be taken care of by the society of $121.96.

ROLLAND PARMETER, Chairman.

REPORT OF HOUSE COMMITTEE

FROM JAN. 1 TO SEPT. 1, 1912	Receipts	Disbursements
December balance	$108.92	
January	200.77	$206.73
February	149.84	106.01
March	116.75	81.88
April	122.05	150.89
May	137.64	88.04
June	130.17	135.43
July	90.00	111.63
August	72.83	105.55
	$1,128.97	$986.16
Balance on hand Sept. 1, 1912		142.81

Respectfully submitted,

HOUSE COMMITTEE,

W. M. Morley, Chairman.

REPORT OF LIBRARY COMMITTEE

September 16, 1912.

To the Members of the Wayne Co. Medical Society.

A complete report of the work of the Library was made to the Society for the fiscal year ending Dec. 31, 1911. The present report is supplementary thereto and includes the statistics since Jan. 1, 1912.

References looked up by the Librarian	25
Books loaned and taken from the library	129
Periodicals sent to the bindery	110
Increase in non-duplicates, including completed volumes of periodicals bound	253
Increase in duplicates	647
Unsorted and unlisted	500
Periodicals received—	
Of the best class of journals	71
Of poorer class of journals	25
Number of non-duplicates in the library	8,466
Number of listed duplicates	3,953
Unlisted	500
Total	12,919

Not included in this number are very numerous unbound files, some of which are complete and will be bound this fall, others are lacking one or more numbers and will be bound as soon as supplied.

Considering the fact that the library has received no money from the general funds of the Society aside from that used for binding and has been compelled to depend entirely upon gifts of books and subscriptions to the periodical fund the committee feels that the growth of the library has been more than satisfactory. From the gifts which have come in, numerous of our files have been completed. The committee has felt that the expense of exchanges with other libraries should not be incurred until the resources of Detroit are exhausted, and would urge that any members who contemplate giving files to the library, do so this fall. We will then be in a position to enter into exchange through the clearing house of the American Medical Library Association and in this way dispose of some of our 3,953 duplicates, for bound periodicals not in our possession.

The Chairman of the Library Committee attended the annual meeting of the American Medical Library Association, of which our Library became a member in June. Many helpful suggestions were obtained from the papers and discussions at the meeting.

We now have the nucleus of a good collection. With an appropriation of three hundred dollars per year from the society and the loyal support of all our members, we can go on growing until, within a few years, we will have a library of which we can all be proud. Most pleasant relations exist between our library and those of Parke, Davis & Co., the University of Michigan and the Surgeons General in Washington. Any book, the reference of which is given to Miss White, will be obtained by her for a fee covering the express charges.

We have practically filled the capacity of the space set aside for books in this building. The stack room on the third floor was strengthened to carry thirteen tons and that limit has been nearly reached. More space is absolutely essential. Until that is obtained, however, we must keep on growing; if necessary books can be kept in storage until such a time as a fire-proof stack room is obtained.

The monetary value of our library is difficult to determine, for the value of books depends, like that of art treasures, upon how much they are desired by others. We have, however, files of journals which, if they were to be replaced at the prices set down in the catalogues of second-hand dealers, are worth four to five thousand dollars. It would cost $8 000 to $9,000 to replace our bindings, alone, assuming that all the books were worth binding, which of course is not true. Viewed from any angle, our library is worth at least $7,500.

With the new administration which begins to-night the present library committee retires. In doing so the thanks of the committee are extended to the Board of Directors, to the members of the Society and to Miss White, who in spite of numerous other duties, has done most efficient work in organizing the library.

Signed,
B. R. Schenck, Chairman.
C. W. Hitchcock,
R. G. Owen,
G. L. Connor,
Harold Wilson.

REPORT OF THE COMMITTEE ON NURSES

The Committee on Nurses of the Wayne County Medical Society respectfully submits its report:

The creation of the Nurses' Central Directory of the Wayne County Graduate Nurses' Association and its establishment in the building of the Wayne County Medical Society have proved a success. The usefulness both to the physician and to the trained nurse of a single directory established at the Society's own headquarters has been demonstrated beyond a doubt.

The physician is being gradually educated to call the nurse through the Central Directory, the natural and proper and, therefore, the easiest way; but some members still call the nurse direct over the latter's house or own telephone. Therefore, again, the Committee urges every member to assist in the establishment of a directory perfect in its detail by making *all* calls through the Registrar only, thus facilitating her work and giving the office greater usefulness and prestige. A by-law of the Directory especially provides that the request for a particular nurse shall be complied with, if said nurse is obtainable.

The Nurses' Central Directory has a membership approximately of 325, all graduate nurses in good standing of training schools of hospitals giving not less than a two years' course. This list includes 5 hourly and 6 male nurses. It is estimated that not more than 75 nurses eligible to registration have failed to take advantage of the privilege.

There is no registration in this directory of the non-graduate, the so-called practical or the monthly nurse; but the Registrar has at her command a list of these nurses and is always ready to supply the demand.

For the year ending Aug. 31, 1912, the number of calls supplied were, 2,459; calls sent in but not supplied, 99 (58 of these were cancelled); calls for the practical nurse, 98; total, 2,656.

Every effort is being made to meet the demands of and to please the physicians and, as the funds permit, the office of the Directory is being better equipped to expedite the work of the Registrar.

In conclusion the Committee desires to extend its thanks and its sincere appreciation to the members of the Board of Directors of the Directory and more especially to their most efficient Registrar for their earnest and unceasing endeavor to place at the disposal of the Society the means of obtaining a nurse with the least possible effort and delay. The society should stamp its approval by ready cooperation.

Andrew P. Biddle, Chairman.

The first meeting of the Medical Section of the Wayne County Medical Society, for 1912-13, was held Monday evening, Sept. 23. Dr. Hugo A. Freund presided. J. H. Dempster, secretary.

The attendance was good, approximately 100 being present. The program consisted of a

Symposium on Typhoid Fever

Dr. P. F. Morse discussed the pathology, illustrating the characteristic intestinal lesion by means of lantern reproductions of microscopic specimens. It should be kept clearly in mind that typhoid was a bacteriemia; physicians were disposed to consider the intestinal lesion rather than the disease. The speaker enlarged upon the pathological changes which roughly corresponded with the four weeks of a typical case of the disease. 1. Hyperplasia of lymphoid tissue. 2. Necrosis and a sloughing. 3. Ulceration. 4. Healing.

Dr. Frank Suggs spoke on etiology and prevention. The usual cause of typhoid was the *Bacillus typhosus* of Eberth. Atypical forms often dysenteric in nature, owed their etiology to the *Bacillus paratyphosus* "A" and "B." Infection by contact and by "carriers" was frequent and difficult to combat. Water pollution should be prevented by the disinfection of all excreta. Carriers should be treated by lactic acid bacilli, urotropin, typhoid vaccine and the *x*-rays over the gall-bladder. In conclusion, Dr. Suggs spoke of the efficacy of typhoid vaccines as a prophylactic measure.

Dr. C. G. Jennings dealt with the subject of diet reviewing the various typhoid menus ranging from starvation to liberal feeding. We had to deal with a condition characterized by great wasting, long continued. Our first impulse was to feed the patient and feed him well. Again, considering the intestinal lesion, the impulse was to starve the patient. At the Johns Hopkins Hospital, typhoid patients were fed twenty-four ounces of milk and the whites of 12 eggs in the 24 hours' feeding at 2 hour intervals The patient received 68 grains of protein, 785 calories. Some objected to milk but most of the objections to milk were objections to the mode of administration. Dr. Jennings thought to eliminate milk was to eliminate a very useful article in the diet of typhoid. Patients had done well on the starvation diet where they were given plenty of water, showing that it was possible to live a considerable time without anything so long as water was administered liberally. Shattuck was among the first to advocate liberal feeding of typhoids and he got good results, too. Dr. Jennings concluded that each case should be treated as conditions called for. That the only way to successfully treat typhoid was to "mix brains with the diet."

Dr. E. A. Chapoton discussed hydrotherapy and medicinal treatment. All applications of cold over the entire surface of the body result in an increase in the blood-cells. Cold also improves the muscular tone of the vessels The temperature of the water should be 70 degrees Fahrenheit. The patient should be placed into the tub and an ice cap applied to his head. Meanwhile his limbs should be rubbed from the extremities toward the heart. The duration of bath should be 15 minutes. Hemorrhage and extreme weakness were contra-indications. The patient is returned to bed where he is covered with one thickness of blanket. These baths were not necessary in all cases of typhoid, especially not in those where the temperature does not exceed 102½ F. Dr. Chapoton held the physician negligent to his duty who did not employ hydrotherapy in the treatment of typhoid.

DISCUSSION

Dr. Geo. McKean thought that pure vaccines had some effect in diminishing the severity of typhoid especially when given in small dosage, for example 50,000,000, frequently repeated.

Dr. Longyear thought it best to exclude milk from the diet altogether, inasmuch as the casein was difficult to digest.

Dr. Stevenson thought the Brand treatment of typhoid worse than the disease. He would substitute an ice pack the whole length of the spinal column.

Major Hartsock considered the result in the U. S. Army was a strong argument in favor of typhoid vaccines as a prophylactic measure.

Dr. A. N. Collins thought since the digestive abilities in typhoid varied to as great an extent as in health, the diet should be made to conform to the needs of the particular case.

Dr. E. W. Haass thought that patients who could digest milk should have it. He had been given the Brand treatment when himself a patient, but his sympathies were not so aroused that he would not administer it to his own patients. Urotropin and hydrochloric acid were valuable agents in the medication of typhoid.

Dr. J. H. Carstens thought that milk tended to constipate and since those constipated were the sickest, milk should not be given.

Dr. J. E. Davis pleaded for greater attention to the convalescent. A more liberal diet if tolerated would hasten the convalescent period.

Dr. Hugo A. Freund spoke of the value of the cold bath as a means of diminishing the toxemia. Baths should be administered even

when the temperature is 100 F. if there be much toxemia.

Dr. Swartz gave very little milk, depending principally upon white of egg and fruit juices. He did not approve of the Brand method. He secured thorough elimination by means of calomel and salines.

Drs. Morse, Suggs and Jennings closed the discussion.

The first meeting of the Surgical Section of the Wayne County Medical Society, for 1912-13, was held Monday evening, Sept. 30. Dr. F. B. Walker presided. Ray Andries, secretary. The attendance was about eighty. Dr. C. H. Oakman presented a paper on the

"Diseases of the Maxillary Sinus"

illustrated by lantern slides. Diseases of antrum may occur as a result of injury or as an extention from a diseased tooth, at least 85 per cent. from the latter cause. Dentists as a rule believe that empyema of the maxillary sinus is almost invariably caused by diseased teeth, and specialists, whose practice is limited to the nose and its affection, take an opposite view. The *x*-ray is sometimes a valuable aid in diagnosis. Transillumination is also an aid, but too much dependence should not be placed upon it. It may be stated that when an enlargement in the maxillary region is opened with a knife and there is reason to suspect the presence of pus, if none be found, the operator should be on his guard against syphilis or neoplasm. The writer believes that in the next decade or two the possibility of infection of the maxillary sinus from diseased teeth or unclean mouths, will be greatly lessened, partly due to the campaign of education which is now being waged by dentists, physicians and Health Boards in many localities. By the proper inspection and clinical care of school children's teeth, under municipal control in behalf of the indigent poor, wonderful results must needs be accomplished; in a word, prophylaxis.

Dr. R. E. Mercer discussed Diseases of the Frontal and Ethmoidal Sinuses. The anatomy is well shown by the stereoscopic pictures of Cryer. The chief function of the sinuses is probably to furnish moist warm air in inspiration, secondarily to aid to give resonance to the voice. The shape and size of the nose has a marked effect on sinus disease. Narrow noses should be corrected in childhood. The narrow nose is an underdeveloped nose and after adenoid and tonsil or other operative measures to make nasal breathing possible, the habit should be established. Varieties of inflammation, diagnosis and treatment were briefly given and a plea made for greater attention to proper nasal development.

Dr. P. M. Hickey opened the discussion with *x*-ray plates showing the various sinuses filled with exudate. Ethmoiditis can be shown if the air is displaced from the cells. Unilateral supraorbital neuralgia is often an undiagnosed frontal sinus infection. The importance of differentiating between maxillary sinusitis of nasal and dental origin was pointed out. The very extensive removal of the jaw for this condition should be limited to the very extreme cases.

Dr. B. R. Shurly called attention to the fact that acute sinus suppurations are often overlooked as a common cold. The key to the situation is in nasal respiration and drainage. Ordinary colds should be studied, bacteriologically and otherwise. The influenza bacillus leaves especially bad sequelæ. Many cases of maxillary sinusitis are associated with infection of the other sinuses and the antra are merely catch basins. The diagnosis has been much improved by the *x*-ray. Vaccines have not given very striking results. Conservative methods should be tried first and then more radical measures.

Dr. H. J. Hartz advocated the use of cocain, adrenalin and alkaline sprays by the general practitioner in the endeavor to give the acute cases early drainage. The narrow nose is an inherited trait and cannot be changed by the removal of adenoids and tonsils. The Caldwell-Luc operation is much to be preferred to oral drainage.

Dr. H. L. Simpson said many neurasthenics can be relieved by investigations of this class. The dental cases should be sharply separated from the nasal infections.

Dr. Willis Potter considered coryza and influenza as the chief cause of sinus infection outside of dental infection. Aspirin is the best general treatment combined with cocain and adrenalin locally.

Dr. Oakman in closing, held the Caldwell-Luc operation of value where there is no necrosis of the floor of the antrum. The narrow face can be changed in the young child by spreading the arch. Many cases of supraorbital neuralgia are due to antral infection. The most extensive cases he has seen have been of dental origin.

Dr. Mercer recognizes no such thing as neuralgia. The cause of the pain must be sought until found. He has had fairly good results from stock vaccines. There is danger of the cocain habit in the free use of the drug in these cases. Many of these neglected cases have never consulted a physician.

Dr. Hickey reported a large metallic foreign body *x*-rayed and localized in the right bronchus. Emphysema was present on the right side. The foreign body was removed by upper bronchoscopy with forceps through a Jackson tube.

Dr. Suggs exhibited a skull, probably of an Indian woman, which showed absolutely no frontal sinus.

The regular general meeting of the Wayne County Medical Society was held Monday evening, October 7. Dr. E. W. Haass, chairman, R. L. Clark, secretary. The attendance was one of the largest present since entering the newly acquired medical building. The program was given over to a Symposium on the Fee-Splitting Question.

COMMUNICATION

FORDHAM UNIVERSITY INTERNATIONAL EXTENSION COURSE

New York, Sept. 20, 1912.

Editor Journal Michigan State Medical Society:

The ninety men who are just now gathered here from all over the country taking this International Extension Course in Nervous and Mental Diseases, are more than pleased with the work. It is a rare opportunity and greatly enjoyed by all.

Henry Head, the Editor of *Brain*, and well-known for his excellent neurological work at the great London Hospital, has been giving us fine material on "Sensibility in Various Lesions of the Cord, the Nerve and Nerve-Roots, the Brain-Stem, the Thalamus and the Cortex." Equally good have been the lectures of Gordon Holmes, also of London, who has been giving us the topographical diagnosis of cord lesions and of lesions of the midbrain and the forebrain. Achucano has been interesting his hearers on the histology and pathology of brain and cord. He is from Madrid and a coadjutor of that world-famous histologist, Ramon y Cajal.

Calvin Russell of Montreal has given most instructive clinics on tabes and other nervous diseases, as has also Gordon Holmes, Abrahamson and others. Knanen of Munich, an assistant to Kraepelin, Jelliffe of New York, and White of the Government Hospital in Washington, are giving us most valuable psychiatric clinics, and Jung of Zurich is holding the interest of all in his lectures on psycho-analysis. He is deeply philosophical and does not hesitate to differ from Freud, who may perhaps well be called the father of psycho-analysis, which though yet in development, has proven of incalculable benefit in helping to unravel many distressing and perplexing mental cases.

Other subjects dealt with by other lecturers are "The Pupil," "Optic Neuritis," "Retinitis," 'Optic Atrophy," "Aphasia," "The Reflexes," "Operative Indications and Contra-Indications," "Psychotherapy," "Hypnotism," "Suggestion," "Backward Children" and so forth. It is a most interesting and complete three weeks' course, keeping us busy from 9 a. m. to 6 p. m., six days in the week. Men are here from state and private hospitals and from private practice from Massachusetts, Maine, Vermont, New York, California, Missouri, Kentucky, Tennessee, Illinois, Wisconsin, and I am trying to hold up the Michigan end. It is a great opportunity which I much appreciate. It is a great credit to Fordham University. Patrick of Chicago is here.

Truly yours,

Charles W. Hitchcock.

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1912, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Plague Bacterin, a bacillus pestis vaccine, marketed in single-dose vaccination; 1 c.c. ampules containing 5 billion killed *B. pestis*. Also marketed in two-dose vaccination, for one immunization. One c.c. ampules containing respectively 1 billion and 2 billion killed *B. pestis*. The second dose is to be injected from seven to ten days later or when the reaction to the first injection has subsided. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Oct. 12, 1912, p. 1377).

Staphylo-Strepto-Bacterin Mixed is a mixed vaccine marketed in a package of four syringes containing increasing doses of killed *Staphylococcus pyogenes aureus*, killed *Staphylococcus pyogenes albus* and killed *Streptococcus*. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Oct. 12, 1912, p. 1377).

Diphtheria Antitoxin, U. S. P., marketed in syringes containing 1,000, 2,000, 3,000, 4,000 and 5,000 units; also in bulbs. Diphtheria antitoxin globulin marketed in syringes containing 1,000 units. Cutter Laboratory, Berkeley, Cal. (*Jour. A. M. A.*, Oct. 12, 1912, p. 1377).

Detre Differential Test consists of tubes containing respectively Tuberculin O. T., Tuberculin B. F. human, and Tuberculin B. F. bovine. Cutter Laboratory, Berkeley, Cal. (*Jour. A. M. A.*, Oct. 12, 1912, p. 1377).

Tuberculin O. T. (Dilution) Von Pirquet's Reaction, marketed in packages containing ten capillary tubes and one ejecting bulb. Cutter Laboratory, Berkeley, Cal. (*Jour. A. M. A.*, Oct. 12, 1912, p. 1377).

Glycerinated Vaccine Virus is a vaccine virus marketed in packages containing respectively five and ten capillary tubes. The Slee Laboratories, Swiftwater, Pa. (Abbott Alkaloidal Co., Chicago) (*Jour. A. M. A.*, Oct. 12, 1912, p. 1377).

Bismuth Betanaphtholate, Merck is a non-proprietary article and complies with the tests laid down in New and Nonofficial Remedies for Bismuth Betanaphtholate. Merck & Co., New York (*Jour. A. M. A.*, Oct. 12, 1912, p. 1377).

THE TRUTH ABOUT MEDICINES

It is the purpose of this department to encourage honesty in medicines, to expose frauds and to promote rational therapeutics. It will present information regarding the composition, quality and value of medicaments, particularly as this is brought out in the reports of the Council on Pharmacy and Chemistry and of the Chemical Laboratory of the American Medical Association.

Kellogg's Obesity Cures and Other Nostrums.—Frank J. Kellogg, starting with nothing it is said, has become a millionaire through the exploitation of fraudulent anti-fat and anti-lean preparations. From Battle Creek, he sells "Kellogg's Safe Fat Reducer," and "Sanitone Wafers," a "nerve vitalizer;" from Detroit, he conducts the Rengo Company, selling Rengo, an "obesity cure" and the Protone Company, selling protone, "a flesh builder." As a side line both companies sell Malto Fruto, "a constipation cure." All of the Kellogg products are dispensed on the medical mail-order plan. Kellogg's Safe Fat Reducer was formerly known as "Kellogg's Obesity Food" and has been found to contain thyroid gland, poke root and toasted bread. Rengo, formerly known as "Rengo Fruit," has been found to contain thyroid gland, poke root, cascara and cassia fistula. It is little less than criminal that ingnorant quacks of Kellogg's type should be permitted to distribute indiscriminately drugs that have the potency for harm that is possessed by thyroid preparations (*Jour. A. M. A.*, Sept. 21, 1912, p. 958).

The Deterioration of Drugs.—Investigation has shown that many drug preparations are prone to deteriorate and that drugs are often many years old when they reach the patient. While some firms have attempted to dodge the responsibility in various ways, others are doing what ought to be done and indicate the date of manufacture on the label of those preparations which are prone to deterioration. This is done for a number of preparations in New and Nonofficial Remedies. A serious attempt to overcome deterioration has been made in a recent report by Pittenger and Vanderkleed, of the scientific staff of the H. K. Mulford Co. on methods for the preservation of fluidextract of ergot. They found that a fluidextract of ergot, put up in hermetically sealed vials, kept its strength for a year without the least change (*Jour. A. M. A.*, Sept. 21, 1912, p. 959).

The Unreliability of Unimportant Drugs.—Using the findings of the A. M. A. Chemical Laboratory, W. A. Puckner discusses the unreliability of unofficial and little used medicines. He points out that, while none would sell these articles under grossly false claims or would adulterate them, because the profits to be derived from their sale is more than offset by the danger of detection, this small demand also operates in another way. The conditions which make it unwise to sell such non-proprietary drugs dishonestly also appear to make it impracticable for the legitimate dealer to go to

the pains of furnishing an article that is pure and reliable (*Jour. A. M. A.*, Sept. 28, 1912, p. 1156).

Desirability of a More Restricted Materia Medica from the Standpoint of the Pharmacist.—H. P. Hynson points out that it is quite impossible for the pharmacist to guarantee the quality of the very large number of drugs which he must handle. In order that the pharmacist may perform his full duty to the physician it is urgently demanded that there be some limitation in the needless duplication of medicinal preparations (*Jour. A. M. A.*, Sept. 28, 1912, p. 1158).

Desirability of a More Restricted Materia Medica from the Point of View of Medical Instruction.—E. LeFevre holds that the present medical curriculum is by far too extended, so that it is practically impossible for the students to give sufficient time and attention to many fundamental subjects, because many others of minor importance have been introduced into it. It is pointed out that the teacher gives much time to unimportant drugs because questions concerning them are asked by state licensing boards and that these feel obliged to require familiarity with such unimportant drugs because they are contained in the Pharmacopeia (*Jour. A. M. A.*, Sept. 28, 1912, p. 1159).

The Drugs We Need.—O. T. Osborne believes that only a thorough familiarity with useful and valuable drugs, will be a cure for the mistake of using nostrums, proprietaries or absurd pharmacopeial preparations. He classifies drugs according to the object for which they are used and discusses those which are most valuable for each purpose. In general he is opposed to the use of mixtures and believes that the active drug can generally be given in a very simple manner. He discusses the best drugs for various purposes and omits all reference to "second- and third-rate drugs" and "third- and fourth-rate preparations." Having advised against the indiscriminate use of drugs and argued against the use of the many new drugs recommended as substitutes for well known medicaments, Osborne says: "I am not a drug nihilist. I believe thoroughly in the activity of drugs and thoroughly in their value, but I deplore the profession being fooled by promoters of so-called new drugs and new synthetics, when, if the reliable Pharmacopeial drug is properly used, it is perfectly satisfactory." He believes that physicians should notice new drugs but that they should do so critically. As regards mixtures he believes that their careful consideration will show the value to depend on some well-known drug only (*Jour. A. M. A.*, Sept. 28, 1912, p. 1160).

Useful Remedies: M. I. Wilbert discusses the work of the committee on useful remedies of the Council on Pharmacy and Chemistry. Commenting on the large number of drugs he says that the present-day status of the use of medicines has been designated as consisting of series of vicious circles: Patent medicines are used by the laity because they are advertised by manufacturers, and they are advertised by manufacturers because they are used by the laity. The closely related proprietary medicines are prescribed by physicians because they are advertised in medical journals, and they are advertised in medical journals because this leads to their being prescribed by physicians. Official remedies are official because they are endorsed by text-books, and are endorsed by text-books because they are official. Wilbert explains the method which has been pursued in the compilation of a list of the more valuable drugs and states that, based upon this list, a short manual is in process of preparation. It is announced that the Council eventually will publish a critical review of the actions and uses of the more important and useful drugs (*Jour. A. M. A.*, Sept. 28, 1912,, p. 1163).

Peruna Revived.—In 1906, the Peruna Company was notified that it either must put some medicine in Peruna or else Peruna could be sold only in saloons or other places carrying liquor licenses. To avoid classification of Peruna as an alcoholic drink a cathartic was added to it. This cathartic has decreased the sale of Peruna so that where formerly car-load lots were sold it is now sold by the case. In view of this the old style Peruna is again on the market but under the new name "Ka-tar-no" (*Jour. A. M. A.*, Sept. 28, 1912, p. 1204).

A New Publicity Law.—A law is now in effect requiring all newspapers to publish, twice a year, a sworn statement giving the names of their owners and chief stockholders. It also requires them to label as advertisements all editorial and news matter for which they receive pay. Unfortunately scientific periodicals are exempt from its requirements. The law should be made applicable to medical journals as it would be interesting to learn the source from which the financial support of many medical journals is derived. It would also be

enlightening to see the "reading notices" and many "original articles" with the tell-tale suffix "(Adv.)" (*Jour. A. M. A.*, Oct. 5, 1912, p. 1299).

The Proprietary Evil.—The New York *Sun* discusses the proprietary evil and its effect on the public. Commenting on the general lack of cooperation among physicians in the promotion of their interests, this paper commends the action of the Missouri State Medical Association in adopting a resolution which pronounces it derogatory to the best interests of members to publish articles in medical journals whose advertising pages contain fraudulent or questionable advertisements. The *Sun* states that the lay reader cannot realize the importance of this enactment, not for the doctor alone but also for the interests of the public, which is the unsuspecting victim and the greatest sufferer from the abuses this resolution is aimed to correct, the prescription of secret nostrums and other proprietary drugs by physicians. The editorial says: "The credulity of the unthinking doctor is not a whit beneath that of the misguided layman, but it is far more contemptible. For this reason the public needs to be warned against doctors who prescribe drug preparations bearing some definite name or title rather than a regular prescription" (*Jour. A. M. A.*, Oct. 5, 1912, p. 1307).

Phenacetin and Acetphenetidin.—"If a prescription calls for 'phenacetin,' should the pharmacist dispense 'phenacetin-Bayer'—that is, the phenacetin manufactured by the original patentee—or would he be justified in dispensing the official acetphenetidin, manufactured by any reliable chemical or pharmaceutical house?" Unless the pharmacist happens to know that the physician in writing the prescription desired the Bayer brand, he would be justified in dispensing acetphenetidin, U. S. P. Physicians in general use the word phenacetin without intending to prescribe any particular brand or make. During the life of the patent the product became generally known as phenacetin. But a coined name for a patented article loses its proprietary character and becomes the common name of the article when the patent expires. In view of these facts—and also bearing in mind the findings of the A. M. A. Chemical Laboratory that the preparation on the market under the title "acetphenetidin" is of equal quality with the preparation sold under the name "phenacetin"—the pharmacist should recognize that acetphenetidin is identical with phenacetin, and that he may dispense the former when phenacetin is prescribed, provided, of course, that no special brand of phenacetin is ordered (*Jour. A. M. A.*, Oct. 5, 1912, p. 1308).

Harmful Effects from Pyramidon.—Exceptional claims are made by the manufacturers for the safety of pyramidon but the literature contains some instances of collapse and alarming symptoms following the administration of this coal-tar product. There is no doubt that the occasional use of an analgesic of this sort for the relief of headache, neuralgia, etc., is beneficial and safe. It is the habitual and uncautious use which must be condemned. In spite of the clinical evidence presented by the manufacturers the positive statement that pyramidon is safer than other remedies of this class is to be questioned. A case of dermatitis medicamentosa following the use of Midol, a patent medicine containing pyramidon, is reported (*Jour. A. M. A.*, Oct. 5, 1912, p. 1309).

Therapeutic Value of Agmel.—Agmel is said to be a concentrated syrup made from the juice of the maguey, or century plant, *Agave americana*. Chemical examination (reported to the Council on Pharmacy and Chemistry) showed it to be a kind of molasses containing a small quantity of formic acid which probably represents the sole medicinal constituent of the preparation (*Jour. A. M. A.*, Oct. 12, 1912, p. 1392).

MEDICOLEGAL

UNRECOGNIZED FRACTURE OF FEMUR; JUDGMENT AGAINST PHYSICIAN

In the case of Rogers vs. Kee, a Michigan jury gave a verdict of $1,000 for injuries resulting from an improper diagnosis, and ensuing treatment of a dislocation of the hip and fracture of the neck of the femur. The defendant appealed to the Supreme Court, which affirmed the judgment.

It appears from the record of the case that plaintiff, a man 55 years of age, while lifting a circular saw weighing from 130 to 140 pounds, and turning to carry it, felt something give way in his hip, causing him to drop the saw. He continued to work during the day, mostly in a sitting posture, and at night walked home, about half a mile, using two canes. He went to work the following day, which was Saturday,

and again on Monday, but on Monday evening his condition was such that he called in defendant for medical treatment.

On defendant's arrival plaintiff informed him of the circumstances of the trouble, and said he thought he had a bad sprain of the hip. There is some conflict of testimony as to what occurred on this and on subsequent visits of defendant. Defendant testified that he found no symptoms of a fracture of the femur; that he made such an examination as would have disclosed any fracture or dislocation had there been one; that he diagnosticated the trouble as sciatica and prescribed the application of a mustard plaster; that on visiting plaintiff the following day he concluded from plaintiff's statement that there was no pain, that the trouble was more probably paralysis and not sciatica, and ordered plaintiff to rub the muscles, but ordered no further treatment; that he continued his visits for nearly a month and was still uncertain what ailed plaintiff, but thought he had some spinal trouble and suggested locomotor ataxia; that plaintiff was able to be up and around, but with difficulty, and that he furnished plaintiff crutches.

On the other hand, plaintiff and his wife testified that when defendant first called he made no physical examination, but at once declared the trouble was sciatica; that plaintiff was lying in bed and told of the incident and when he first felt the pain; that defendant indicated on the hip where the mustard plaster should be applied and left, remaining in all only about five minutes. That on the following day he made no examination whatever; on the fourth day, he found plaintiff sitting up and asked him to walk. Plaintiff informed him that he was unable to do so, but by the aid of a chair managed to crawl to the bed to submit to an examination. Defendant then felt the parts, but made no movement of the limb nor measurements, and said that everything was all right; that the hip was then swollen, and defendant gave instructions to massage and rub it with a liniment which he prescribed; that this instruction was carried out by plaintiff's wife, though it was very painful, and defendant was informed that it hurt to move the limb, and that the leg had become shortened, but defendant said it was simply a temporary contraction of the sciatic cord. When plaintiff asked about consulting a specialist, defendant said it would be useless and throwing away money. That on the eleventh day, without making any further tests, measurements or diagnosis of any kind, he put plaintiff on crutches and directed plaintiff to exercise the limb, and had him swing it back and forth as much as he could, to see what action could be produced. On the thirtieth day, he ceased to pay any further attention to the case. Plaintiff and his wife testified that since lifting the circular saw plaintiff had sustained no fall or stroke on the hip or accident of any kind.

About four weeks after defendant ceased his visits, plaintiff consulted another physician, who found him suffering from a fracture of the neck of the femur and a dislocation which had not been reduced, and which had existed for some time, a fibrous union having developed. The limb was shortened over two inches, and could be projected backward and forward, but not sidewise. Other physicians confirmed the correctness of this diagnosis.

The trial court submitted to the jury the question whether the fracture and dislocation existed at the time defendant was called to examine plaintiff, and the jury found that it did and that defendant was negligent in not making a proper diagnosis. Mr. Justice Steere, of the Supreme Court, in approving this finding, stated the obligation of the physician with regard to making a proper diagnosis as follows:

"The law is well settled that a patient who employs a physician is entitled to a thorough and careful examination, such as the condition of the patient and circumstances will permit, with such diligence and methods of diagnosis for discovering the nature of the ailment as are usually approved and practised by medical men of ordinary learning, judgment and skill in similar localities. If, by the exercise of such care and skill, the fracture would have been discovered, a failure to properly diagnosticate is negligence, and it is the duty of a physician, in taking charge of a case where there is a broken limb, to inform and instruct the patient as to his conduct and what caution should be observed in moving or using the limb while it is being treated."

The serious question in the case as presented to the Supreme Court was whether plaintiff's condition at the time of trial was any worse than it would have been had proper treatment been applied. It appears that six of plaintiff's expert witnesses on cross-examination answered in the affirmative the question: "Would you not say that plaintiff's limb shows as good results following a fracture of the neck of the femur

as would ordinarily be obtained in a patient of his age under skilful treatment?"

The court in passing on this question reviewed much of the expert evidence from which it was manifest that the treatment applied was unsuited and improper for the injury which was found to exist in plaintiff, and that no treatment was given which was suited for that injury; that while it was not certain, or perhaps probable, that his condition would have been better had proper treatment been applied, yet there was a chance that his condition would have been better and that he was entitled to have had that chance; moreover, the treatment prescribed in this case had caused plaintiff unnecessary pain and suffering, or at least the jury had so concluded, and pain and suffering caused by improper treatment was a lawful element of damages, and that the judgment should therefore be affirmed.—Abstracted from *Northwestern Reports*, Vol. 137, p. 260.

The above synopsis is an accurate epitome of the testimony and supreme court decision in this case. The jury was convinced that negligence occurred in the failure to diagnose a fracture of the neck of the femur and the supreme court held that although there was no certainty that proper treatment would have given any better result, the plaintiff lost a chance to which he was entitled and had needless pain and suffering, hence should recover damages on these two counts.

The testimony showed that the plaintiff walked several miles after injury and did not call Dr. Kee until three days later, although the mill where he worked furnished free medical attendance to its employees. It is hard to believe that a fracture could result from a simple twist of the body and, if so, that one could get around, as this man did, even with the aid of canes, without enough discomfort or disability to suggest the immediate calling of a doctor, especially since his services cost the man nothing.

All the experts who examined the man prior to trial agreed that he had positive evidence of a fracture and with no showing that such fracture occurred at any other time than when under Dr. Kee's care, the jury believed that it must have been then present and not recognized. Both the plaintiff and his wife testified positively, that the ordinary measurement tests for fracture of the hip were not made, and Dr. Kee's unsupported evidence did not convince the jury as to the thoroughness of his examination to exclude a fracture.

This case is summarized for the lesson in it for the Michigan profession. The law obligates a doctor to display the average degree of knowledge and skill current in his community, and to avoid all negligence. Hence he must diagnose the condition with as much accuracy as other men in his community would do and care for the case with necessary diligence. An error in diagnosis may be excusable if all recognized methods of reaching an accurate conclusion are employed. In the treatment of fractures accurate diagnosis is the first essential. In doubtful cases, an anesthetic should be given and the *x*-ray be employed, if possible. Counsel should always be called, that the diagnosis and treatment have the endorsement of a strong and reliable witness. Some deformity and less of function will often ensue with the most scientific treatment, but if we can show that nothing has been left undone that is customary in similar cases we are not legally blameworthy for untoward results.

Fractures are usually handled by the first doctor called, and neither custom nor necessity has so far developed a specialist other than the general surgeon. Hence any man doing general practice is liable at any time to have under his care more or less complicated cases of fracture. What does the law demand of him? Reasonable accuracy in diagnosis and reasonable diligence in treatment following the customary procedures as regards splints and dressings. Furthermore, not only should the doctor be himself certain that he has been both competent and careful, but be able to prove it, if necessary.

From the large number of fracture cases reported to the Medicolegal Committee it is apparent that the laity expect better results than are generally obtained. Until it has been generally proved, through the courts, that we are not legally responsible for end results, we will be called on to defend suits for fractures. This committee can only present the law, the evidence must decide the case. Hence it is the duty, in self protection, of every man treating any kind of a fracture or any case in which a fracture *may* be present, to so handle the case as to be able to prove to a jury (if necessary) that he has been neither negligent nor incompetent.

Criticism by fellow practitioners usually starts the dissatisfaction which leads to suit.

Every man should realize that he is equally vulnerable and that a successful suit in any community invariably stimulates others and he may be the next victim. Every suit depends for success on the medical men who testify against the defendant doctor. Without this willingness to publicly assail a fellow practitioner, no attorney would take a case. Does it pay any individual to perpetuate a menace to the entire profession, which always menaces himself as well, for a little revenge, a little local prestige, or a little money? Think it over, doctor. Does it?

FRANK BURR TIBBALS,
Chairman, Medico-Legal Committee.

MISCELLANEOUS

SAMUELS RETURNS TO WICHITA

Detroit Proves Too Hot for this Quack

"Professor" Samuels, who dispenses a weak solution of sugar and salt at $5 an ounce for the cure of all known diseases, has returned to Wichita, Kansas. Some months ago he left the western city and transferred his mail-order business to Detroit. If he did this in the belief that Michigan was an "easy" state and that he would be free from interference by the authorities, he was disappointed. He had barely got settled in his Detroit offices when the public prosecutor, Mr. Hugh Shepard, raided the concern, seized the card index of Samuels' present and prospective victims and, according to the newspapers, carried off a barrel of sugar and a bin of salt.

Finding Michigan so unsympathetic, Samuels has returned to Kansas and is now "doing business at the old stand." Detroit is to be felicitated. The business men of Wichita do not seem to be very enthusiastic over Samuels' return. The official organ of the Wichita Business Association in discussing fake concerns in that city makes the following reference to Samuels without mentioning the quack's name:

"Only recently the king of quacks and 'fakers,' run out of a big Eastern city, mercilessly handled without gloves by the American Medical Association, has returned to Wichita. Some people received him actually with open arms. Some seem to think that the boost that postal receipts get from this mail-order business atones for any shortcomings he possesses. Righteous indignation surges up rebelliously at the very idea of 'fake' clothing and shoe concerns doing business here, and legislation gets them; but no one seems to care much at the return of this notorious and unconscionable medical quack."

If Wichita has the right kind of public prosecutor, that city can be made to be just as unhealthy for Samuels as Mr. Shepard made Detroit. But the case would need to be handled without gloves. Samuels' business is a fraudulent one and in spite of his wealth, amassed by selling a worthless mixture as a cure for disease, his activities in this line can be curbed.

Like all mail-order quacks, Samuels' chief stock in trade are his testimonials. In his advertising, he makes much of the letters that he claims to have received from his "patients." There is one class of letters that he receives about which nothing is said. We reproduce a few of the letters of this kind. Out of consideration for their writers, we omit the names and addresses of the persons sending them although both are on file in *The Journal* office:

TENNESSEE, Feb. 20, 1912.

PROF. H. SAMUELS, Wichita, Kan.

Dear Sir:—I am sending the treatment back that you sent my wife some time ago. She is dead now. The treatment you sent her made her worse and I can prove it. She never used it but six times and she got worse right straight. Now I enclose your treatment back to you and I want my money back. If you don't I am going to pull you for sending something that made my wife worse. There have others told me I could, but I won't bother you if you will send my money back, and if you don't I will see what I can do with you. Awaiting for quick reply, I am, Yours very truly,
W. F. S.

OHIO, Jan. 21, 1911.

PROFESSOR SAMUELS, Wichita, Kan.

Dear Sir:—I am sorry to tell you my father is dead, and if you have not sent that medicine, please hold same and return our money, as we need it under the present circumstances.

We are greatly in need of money now, and if you will please send our money back, please do so.

If you have a small boy you may put yourself in our condition and think if you were to die and leave a boy and wife to take care of themselves.

You see, my father was a poor working man and put all of his hope in your medicine.

So if you will please send our money back we will be very grateful to you.

Yours very truly,
H. S. P.

P. S.—We ask your sympathy in our trouble.

ARKANSAS, May 5, 1911.

PROFESSOR SAMUELS.

Dear Sir:—I will drop you a few lines, as I will send the last treatment of your medicine back. My husband is dead. Just waited too late to cure him, and I am left alone with two little ones to provide for and I can't use your medicine. I will return it, and if you think it right to return the money why do so, for I need it. As that is all, I will close. E. Y.

IDAHO, May 16, 1911.

PROFESSOR SAMUELS.

Dear Sir:—Received your letter, but Mr. L. was dead at that time. He passed away Saturday, May 6. Kept up with your medicine till the last day; used only half of the one month's treatment. Will you take the medicine back that is left and send me some of the money back, at least $15 of it, as I am a widow with three children, now can use the money badly. Please let me know about it as soon as possible. Have the medicine in a cool dark place.

Yours respectfully,
MRS. A. L.

Nebraska, Feb. 20, 1912.
Prof. H. Samuels, Wichita, Kan.

Dear Sir:—Something near two months ago I sent you a bank draft for $5 for a month's treatment for my little boy's eye who by accident was hit in the eye with a stick and thus cut in the edge of the pupil of the eye. We rec'd the treatment in due time and used it according to directions, but have received no benefit, as the boy is blind in that eye. I sent you the money in good faith and on your own recommendation and also of Mrs. S. of this place, who is taking your treatment. Now, in view of the fact that we have received no benefit from treatment, do you not feel that it would be right that I should receive my $5 again?

Doc, if I was not a poor man and have four children to look after beside my wife, I would say nothing at all; but in view of the foregoing facts I only ask to be treated by you the same as you would desire to be treated by me were you in my stead. I will close, hoping to hear from you soon.

Sincerely yours,
A. F. S.

Can these be read without indignation? Do the tragedies they detail call forth no protest against the heartless cruelty of the mail-order quack? Must we wait for that far-off time when the masses of the people shall have developed that healthy scientific skepticism that will make quackery impossible, before doing something to protect the wives and children who are heartlessly swindled by frauds of this kind? Or shall we not ask our legislators to recognize the patent fact that a large proportion of the public needs protection against its own susceptibility and credulity in matters so closely related to its own health?

The Detroit *News* published an interview that one of its reporters had with Samuels at the time this quack was still living in one of the most expensive hotel suites in Detroit. When seen by the reporter Samuels, with his wife and daughter, was about to start for a ride in his motor car. After the interview was over Samuels and his party rode off—but let the reporter tell it:

"They were laughing as they went out in the sunshine and the well-dressed little party looked prosperous—the 'professor' has cleaned up half a million dollars on his compound. But as they slipped into the traffic of the avenue, another picture seemed to arise and sit beside the 'professor'—a gaunt woman holding in her arms a heavily-breathing child. In her hand, a bottle and a medicine dropper. She touches the forehead and starts back. The wasted little body is chilling with the chill of death. The professor opens a letter. She asks for the return of the money she sent him. She does not need the rest of the treatment, the child is dead.

"Then there is a man who coughs slowly and terribly. His face is the color of chalk, his throat is sunken, his hands are so slender the bones seem to start through. A wife bends over and drops a colorless liquid into his eye. With the application goes all of her faith, for is not Professor Samuels the 'Modern Moses'—he says so himself in his advertisements—who will lead the people out of the bondage of sickness and suffering? And mingled with these are many, many others."—*Journal A. M. A.*, Oct. 12, 1912.

ADENOIDS IN INFANCY

The definite determination of adenoids in the babe is most difficult. Under 1 or 2 years of age it is not advisable to insert the tip of the index finger into the epipharynx, except as a last resort. The best and safest way to make the examination is with artificial light, a head and postnasal mirror, if a dark room is at hand; but if not, natural light, preferably sunlight, may be used. The child, wrapped in a sheet to confine his hands, is held in front of you by an assistant who also confines the child's legs and holds the face firmly. A second assistant places a tongue compressor far back on the tongue, giving plenty of illumination of the pharynx. A retractor in the left hand draws the soft palate forward, giving plenty of space for the small postnasal mirror to reflect a clear view of the entire vault of the pharynx. Two or three attempts may be necessary to obtain a clear view.—Briggs, *Pediatrics*, September, 1912.

BOOK NOTICES

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., and L. F. Appleman, M.D. September, 1912. Lea & Febiger, Philadelphia and New York. $6 per annum.

This volume of "Progressive Medicine" is just as complete and just as valuable an index and outline of medical progress as the reputation of this series would indicate. This number contains the advances and new thought on "Diseases of the Thorax and its Viscera, including the Heart, Lungs and Blood-Vessels," by William Evart, M.D., F. R. C. P.; "Dermatology and Syphilis," by William S. Gottheil, M.D.; "Obstetrics," by Edward P. Davis, M.D., and "Diseases of the Nervous System," by William G. Spiller, M.D. As always the abstracts are clear and often are enhanced in value by the editor's personal experiences.

Life and Letters of Dr. William Beaumont. By Jesse S. Myer, A.B., M.D., Associate in Medicine in Washington University, St. Louis. With an Introduction by Sir William Osler. 58 illustrations. St. Louis. C. V. Mosby Co., 1912. Net $4.00.

This is the most complete biography of Dr. Beaumont ever written, and is especially interesting to us in Michigan because of the fact that Dr. Beaumont performed much of his investigations on St. Martin's stomach on Mackinac Island while fort surgeon there.

The first public recognition of Beaumont's work is of importance to us as it was the election of Dr. Beaumont to honorary membership in the Medical Society of the Territory of Michigan, Feb. 7, 1825. The present Michigan State Medical Society is the direct successor of the Medical Society of the Territory of Michigan, and in 1900 in conjunction with the Upper Peninsula Medical Society erected a monument on Mackinac Island to Dr. Beaumont. This monument is mentioned and illustrated in the book.

It is not necessary to review Dr. Beaumont's work or his life, but sufficient that the present author has exhibited an unlimited amount of patience and perseverance in searching out the original papers, letters, etc., as a basis for this work. It is a fascinating biography and an important one in American medical history, giving as it does not only the life and work of one of our earliest and most indefatigable workers, but giving us side lights on contemporary medical affairs and progress.

The Surgical Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago. Volume 1, No. 4 (August). Octavo of 154 pages. Illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Published bi-monthly. Price per year: Paper, $8.00; cloth, $12.00.

The well-deserved popularity of these clinics continues to grow. In his own inimical way, Murphy brings out in each clinic not only the points of interest in the case at hand, but from his wide experience and wonderful memory as well as from hospital records, draws parallel cases from which he cites corresponding pathologic conditions with treatment and results.

This volume treats of appendicitis, ankylosis, angiophlebitis, hypertrophy of the prostate, nephropyeloplasty, impacted fracture of the vertebræ, traumatic epilepsy, transplantation of bone, carcinoma and fractures.

A valuable feature of these clinics is the clear interpretation of the physiologic processes by which union or healing is affected.

The Pituitary Body and Its Disorders. Clinical States Produced by Disorders of the Hypophyses Cerebri. By Harvey Cushing, M.D., Associate Professor of Surgery, Johns Hopkins University; Professor of Surgery (elect) of Harvard University. 319 illustrations. Philadelphia and London: J. B. Lippincott Company, 1912. Price, $4.00.

This book, like Gaul, is divided into three parts. Part one is introductory, giving the anatomy and physiology of the pituitary body, together with experimental work on the physiology and pathology. Part two occupies two-thirds of the book and consists of exhaustive case reports with the author's interpretation following each report. These cases are presented in five groups: First, Both neighboring and glandular symptoms outspoken; second, Pronounced neighboring but inconspicuous glandular symptoms; third, Pronounced glandular but inconspicuous neighboring symptoms; fourth, hypophyseal diseases from remote intracranial lesions, and fifth, Cases showing a polyglandular syndrome. Part three is the incidence, symptomatology and treatment.

Dr. Cushing has been a pioneer worker in the surgical treatment of diseases of the pituitary body, and has presented a book well worthy of his pen. Monographs on important fields of medicine and surgery are becoming more abundant and more and more in demand. This one on the pituitary body gives us something dependable on a poorly understood subject.

BOOKS RECEIVED

The twenty-ninth annual report of the Department of Labor of the State of Michigan. Published by authority, Lansing, Mich., 1912.

Transactions of the Florida Medical Association for the year 1912. Meeting held at Tampa, May 8, 9 and 10, 1912.

Philadelphia General Hospital Reports, Vol. viii, 1910; edited by David Riesman, M.D., Philadelphia. The Dunlap Printing Co., 1911.

The Carnegie Foundation for the Advancement of Teaching, Report on Medical Education in Europe, Bulletin No. 6, 1912.

Transactions of the Twentieth Annual Meeting of the Medical Society of Hawaii. Held in Honolulu, Dec. 9 and 11, 1911. Honolulu, 1912.

Mortality Statistics for 1909, Bureau of Census, Washington, 1912.

The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

Vol. XI BATTLE CREEK, MICHIGAN, DECEMBER, 1912 No. 12

ORIGINAL ARTICLES

ACUTE HEART FAILURE*

EUGENE BOISE, M.D.
Grand Rapids

"The heart is the best motor known to man. It performs equally well the small amount of work necessary when a man is at complete rest, and the large amount necessitated by great exertion."

The healthy heart responds to every call at once. If the arterial resistance be suddenly increased, it is as promptly overcome by the succeeding ventricular contractions, and there is no time lost in experimentation. The demand and the accomplishment occur together. It can receive and expel much more or much less blood than usual in response to the call.

"And this adaptability is a property inherent in the heart muscle itself. A heart freed from all nervous connection possesses this property to precisely the same degree as does the intact organ."

Von Frey remarks that this ready response to a sudden call for more blood is not a reflex act, but is due to some property inherent in the muscle, because the heart may not feel the call till the beginning of systole, but the response is instant.

We may say also, that the heart is practically tireless, as, witness its behavior in paroxysmal tachycardia, when it will beat for hours or days at the rate of 200 or more with no apparent weakening. Every muscle is attuned (as it were) to a certain ratio of contraction and rest, for instance, it has been shown that the abductor indicis can lift an object of given weight once a second for two and a half hours (9,000 times). So with the heart, the period of systolic contraction is so counterbalanced by the period of diastolic rest, that the "cardiac cycle" will continue a lifetime with slight and transient variations, and without noticeable fatigue. The heart rests, not by lessening the force of its contractions, but by prolonging the period of diastole. The contractions of the healthy heart are always equal to the demand. The relaxations are the periods of rest and are equal to the necessity. This holds true in the healthy heart. Heart failure is a result of a diseased or crippled heart. A healthy, normal heart never fails.

It is true that the heart sometimes is crippled by sudden violent effort to overcome extreme peripheral resistance, or to render the blood-supply equal to the increased metabolic demands, and a condition of acute dilatation occurs which, unrelieved, leads to true heart failure. But

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

the heart is then no longer a healthy normal heart, and the failure only occurs after the integrity of the heart musculature is impaired.

If then, we accept the statement (as I think we must) that the normal healthy heart does not fail, it follows naturally that heart failure is an accompaniment or sequence of some pathological condition or process. The term "heart failure" means of course, failure on the part of the heart to perform its duty, to respond promptly and efficiently to the demands. But it does not convey any idea as to the etiology or nature of the failure. The heart may fail and stop in diastole or in systole, and it is the desire of the writer to endeavor to offer some help in distinguishing between the two conditions in order that we may apply our therapy more intelligently.

Hirschfelder describes a condition that he calls "acute primary over-strain," occurring in healthy hearts. It is caused (as the term signifies) by anything that throws a sudden violent strain on the heart, such as heavy work, lifting, running, etc., and, at times, severe mental strain. It is characterized by the sudden onset, after unusual exertion, of dizziness, palpitation, pallor, a sense of uneasiness, etc., with perhaps a sense of oppression, all aggravated by repeated exertion. The pulse is small, feeble, rapid and often irregular. The cardiac impulse may be barely felt, or not at all. The area of cardiac dulness is enlarged to the left, upward and downward, sometimes also to the right; the sounds are feeble and indistinct, especially the first sound.

Krehl,[1] however, doubts the frequency of acute dilatation in healthy hearts. He says:

> There have been cases described in which a heart, as the result of a brief but excessive amount of work, was said to have been permanently injured, or, indeed to have given out entirely. It has been considered that this resulted from an excessive dilatation of the heart. We know that such an acute dilatation, with an arrest in diastole, may be produced experimentally in animals by greatly increasing the resistance against which the heart must pump. The possibility that a similar result may occur in man from excessive exertion, cannot be denied absolutely, yet the probabilities are entirely against this view.

In the reported cases of heart failure following exertion, too little attention has been paid to the condition of the heart muscle, which has, in most instances, been previously damaged. Confirmatory of this are the results of observations made by de-la-Camp, which showed that exercise, even to the point of exhaustion and fainting, does not bring about cardiac dilatation in otherwise healthy men; also that healthy dogs could run on a treadmill until they dropped from exhaustion, without causing dilatation of the heart. On the other hand, J. Barach, on a set of marathon racers, has obtained contrary results, the orthodiagraph showing dilatation of the heart in all cases.

Hornung also states that he has studied during the past seven years, eleven hundred hearts with the *x*-ray, and has found a number which were apparently perfectly normal, but were subject to acute dilatation after over-strain. He thinks that cardiac over-strain, with acute dilatation, is more common than might be supposed.

DIAGNOSIS

The diagnosis, as to the present condition, is not generally very difficult, but it may well be difficult to say that it is primary. There may have been latent pre-existing myocarditis, fatty degeneration or arteriosclerosis. The history, therefore, is in all cases an especially important factor. When symptoms of heart failure occur suddenly in a robust individual, during or after some intense mus-

1. Clinical Pathology.

cular or nervous effort, cardiac over-strain may usually be correctly diagnosed, and if there be a history of recurring attacks, or of recent infectious disease, a condition of cardiac dilatation may be equally surely diagnosed. But if there be no history of previously existing circulatory disturbance, the individual being young and robust, the condition may be one of cardiac hypertonus. The differentiation, however, is practically of comparatively small moment, the corner-stone of the treatment of both conditions being absolute rest, with intelligent and faithful co-operation of physician and patient.

As to this condition of hypertonus following severe exertion, further observations have been made by Groedil, Mowitz, Dietlm and others. They have studied the action of the heart by means of the orthodiagraph and have shown that while acute dilatation is one of the results of over-strain, an entirely opposite condition very often occurs. The heart, after violent exertion, even in trained athletes, has been shown to become smaller rather than larger. It contracts strongly and relaxes imperfectly, yet the patient may present the clinical picture of acute dilatation from cardiac over-strain, pallor, a small rapid pulse, and even syncope, but the heart is tonically contracted rather than dilated.

Hirschfelder, in commenting on this condition of cardiac hypertonus following severe exertion, says that the mechanism is not fully understood, but that the explanation given by Henderson for similar conditions, gives a plausible solution, viz., that by the violent exertion the rapidity of breathing exceeds that necessary to aerate the blood. Under these conditions CO_2 leaves the lungs and the blood a little too rapidly, acapnia results, and this, Henderson believes, is the cause of these circulatory conditions as it is in shock. Hirschfelder seems to agree with him and offers this as the explanation of the small contracted heart and the arterial anemia induced by severe exertion.

It would seem then that we must, partially at least, revise our ideas as to the treatment of the apparent heart failure following over-strain. It is probable that in the majority of instances there is an acute dilatation with consequent feebleness of contraction. But it appears to be also true that in many instances the heart is in a condition of contraction to such an extent as to be decidedly smaller than normal. How to distinguish between the two conditions is a problem that must be left to the clinician. The symptoms of an imperfectly dilating heart may be virtually the same as in one that contracts imperfectly.

There is another form of acute heart failure that I wish to discuss because it has occurred to me that our present views as to its pathology may be incorrect, and that the efficiency of our treatment may be increased by a revision of our hitherto accepted ideas. What is the nature of the collapse that sometimes occurs at the height of acute infectious diseases?

There are certain diseases which we call the acute infectious diseases, such as typhoid and scarlet fevers, pneumonia, etc., in which it is not uncommon to observe at the height of the attack, symptoms of heart weakness which, in most cases, subside with convalescence. When, in these diseases, the symptoms of failing circulation and cardiac weakness make their appearance during the period of convalescence, or two or three weeks after the height of the disease has passed it is right to diagnose myocarditis. But when the symptoms and signs of heart failure make their appearance during the height of the infectious-process, it is not right to attribute them in any degree to "exhaus-

tion of the heart muscle." The heart muscle does not become so easily exhausted. Nor should we call it acute myocardial degeneration. When in the course of any of the acute infectious diseases, the pulse, which has been running at about the proper ratio with the temperature, begins to grow disproportionately rapid and small, and when the blood-pressure begins to fall, we are accustomed to say that the heart is failing, and we endeavor to sustain it by administering the regular approved heart tonics. But generally we fail to get the desired results and we say that the degeneration of the heart muscle was too far advanced.

I think that in these cases we have the wrong conception of the pathology. In many cases the period of time that has elapsed since the start of the infection is too short to allow the degeneration of the muscular fibers to reach that extent that will cause cardiac failure. The heart does not fail easily. It takes many days generally, for the degenerative processes to be able to cripple the heart. In the meantime the pulse, though perfectly regular, is becoming very rapid and small, till finally a condition of collapse supervenes and death ensues. Yet not from heart failure; rather from the action of the toxins on the vasomotor center and the accelerator nerves of the heart. The action of these toxins is stimulant. They stimulate the constrictor nerves of the arteries and the accelerator nerves of the heart. The arteries become smaller and the heart tends to a tetanoid condition. The venous tonus is lessened and therefore the veins do not give the heart much blood, nor does the heart relax sufficiently to receive much. Finally, so little blood is sent to the arteries that nutrition fails and death ensues.

I am aware that this is not the view generally held. In fact, Romberg and Passler have advanced the theory that the collapse that sometimes occurs at the height of infectious diseases is due to a vasomotor paralysis. It does not seem to me, however, that vasomotor paralysis explains the circulatory conditions as perfectly as do vasomotor constriction and cardiac spasm, and I am not alone in this view. Yandell Henderson,[2] of Yale, says:

"Failure of the circulation is the commonest mode of death. When the process is judged by the arterial pulse there appears to be a progressive weakening of the heart beat. Such a decline characterizes the approach of the end after many abnormal conditions. It often follows intense and prolonged pain and it may occur at the height of an infectious disease. At first the rate of the heart beat is rapid. Its amplitude diminishes while arterial pressure is nevertheless maintained at a normal level, or even above normal. After the pulse has become 'thready' arterial pressure sinks rapidly, the amplitude of the heart beats is small and becomes progressively smaller. Formerly this process was regarded as consisting essentially in failure or fatigue of the contractile force of the heart. Even today it is generally so denominated among clinicians. The later stages of this process are spoken of by surgeons as shock."

Now listen! Henderson says further, traumatic shock and toxemic shock (which name Henderson gives to the collapse that occurs at the height of infectious processes) *are in all essential features identical.*

"It is illogical to call this condition (toxemic shock) vasomotor failure, for the same evidence which shows that in shock the heart is still functionally capable, demonstrates also that the vasomotor mechanism is in a high degree of activity. The heart in shock does not fail, if by failure is meant beating more and more feebly until it sinks into prolonged diastole. On the contrary, during the tachycardia early in shock the systoles empty the ventricles more completely than normally. With the increased tonus induced in the heart by acapnia, the ventricles require more than a normal venous pressure for their diastolic distention, at

2. Am. Jour Physiol., 1910, No. 1.

The upper tracings represent the amplitude of the heart-beats. The next lower tracings are of blood-pressure. The line just above the lowest tracings is the zero line; absence of pressure; death. The down strokes represent the systolic contractions, the up strokes diastole.

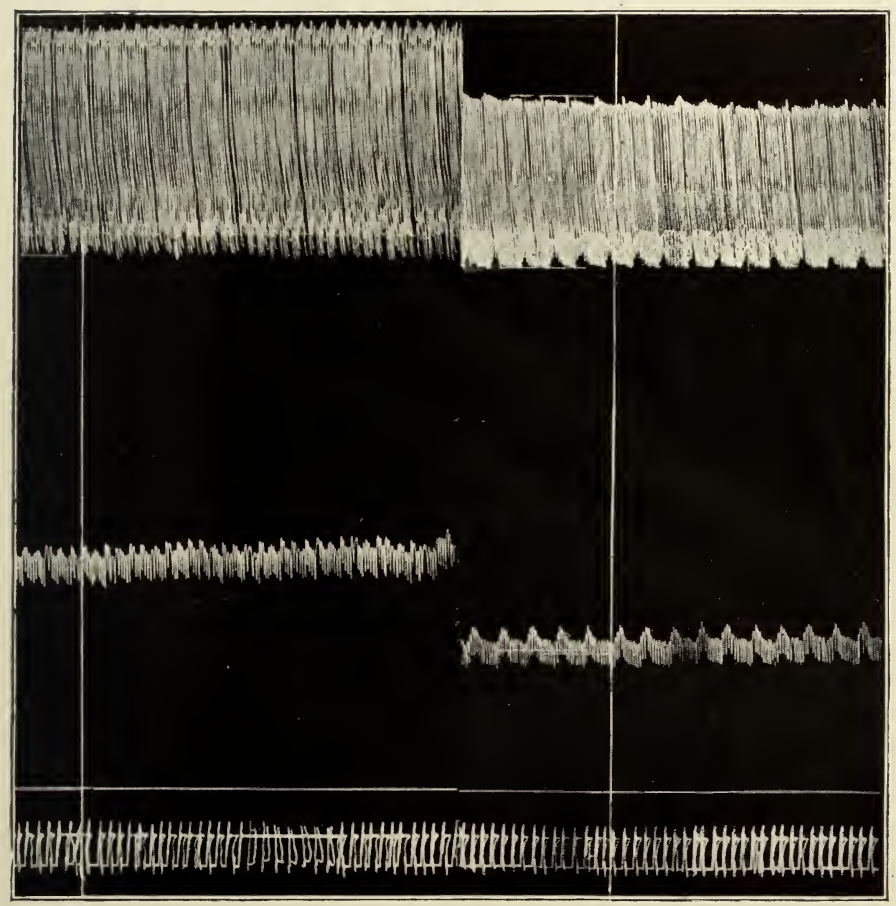


Fig. 1.—Showing the condition of the heart in shock. First half, normal dog. Second half, same dog in moderate shock. Systole increased and diastole greatly decreased. Tonic spasm. Pressure low.

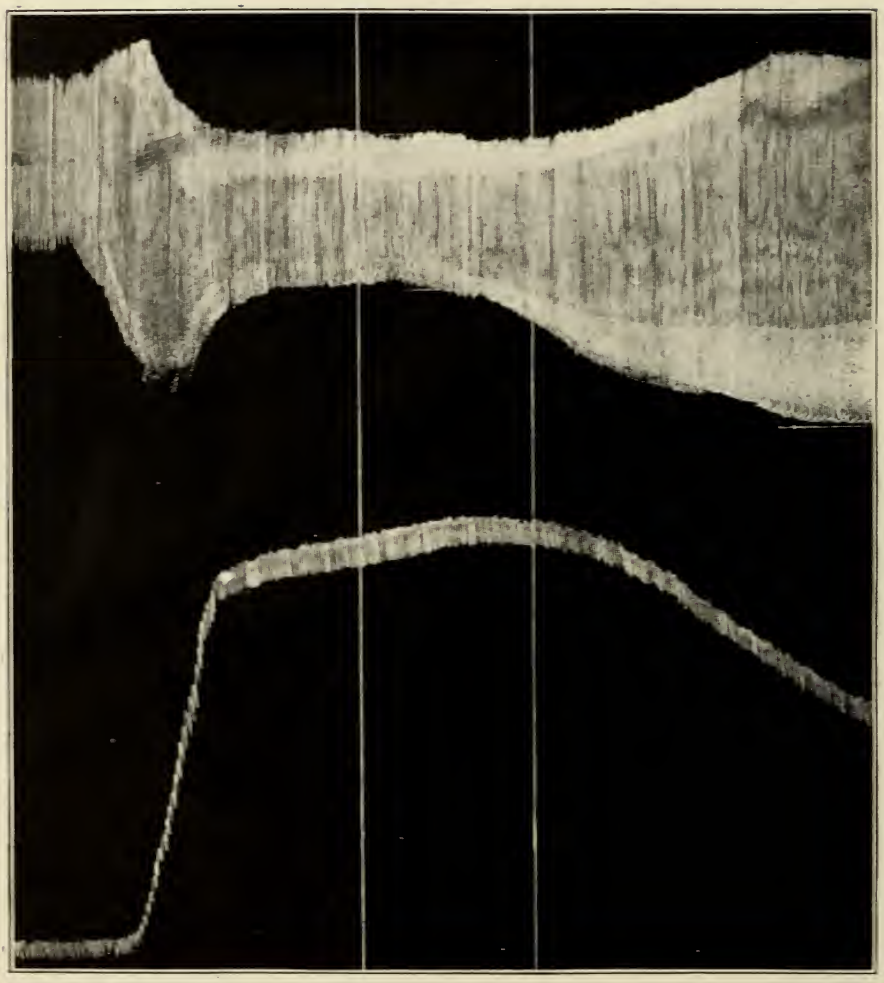


Fig. 2.—Showing action of adrenalin on heart. First half, tonic contraction of veins, causing increased blood-supply to and from the heart, with rapid rise of pressure. Second half, tonic contraction of heart. Increased systole and decreased diastole, the same as in shock (Fig. 1).

Fig. 3.—Showing toxic action of moderate dose (0.6 c.c.) of veratrone (intravenously) on normal dog.

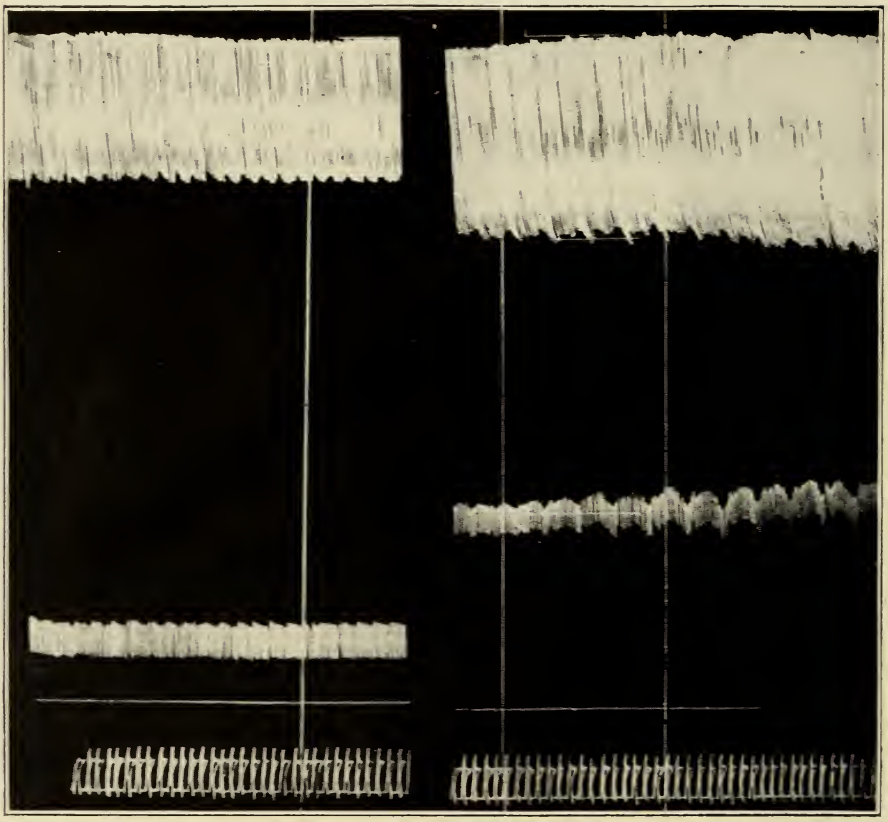


Fig. 4.—Showing action of large dose (4.7 c.c.) of veratrone (intravenously) on dog in profound shock. First half, low pressure and diminished amplitude of heart-beat. Cardiac spasm. Second half, blood-pressure restored to normal after use of veratrone. Amplitude increased. Cardiac spasm overcome. Normal output from heart. No toxic effect.

the same time the force of the venous stream is diminished by the failing venopressor mechanism.

"Thus," Henderson says, "*hyper-tonus* of the heart, as held by Howell and Boise,[3] and confirmed by Jerusalem and Starling is an important contributing element in circulatory failure."

Janeway, in speaking of the work of Romberg and Passler, says:

"Their conclusions clearly demand that we shall, in most cases, abandon the idea of cardiac death at the height of acute infectious diseases, such as pneumonia, typhoid fever, diphtheria and the septic fevers. Sudden death during convalescence may be due at least in part to the later development of lesions in the heart muscle."

We may say then that the sequence of events preceding death at the height of acute infectious diseases is as follows: The heart, by reason of excessive and spasmodic systolic contraction and imperfect relaxation with weakened venous pressure, is not adequately distended and filled during the diastole, hence the picture of a failing heart revealed by the pulse. For the same reason arterial pressure ultimately sinks, in spite of an intense activity in the vasomotor nervous system (not because of failure), and in spite of an extreme constriction of the arterioles (not because of their relaxation or paralysis). Finally the blood-stream is so much diminished that it is inadequate to supply oxygen to the tissues and death quickly ensues. We may therefore properly say that the heart fails in certain cases of acute dilatation following primary over-strain, and in those cases occurring during or after the stage of convalescence, where there has resulted acute myocarditis with degeneration of the heart muscle. But we may not blame the heart when death occurs as a result of the acute collapse which occurs during the height of various infectious diseases and septic processes. In these cases death results from circulatory failure due to hypertonus of the heart and arteries.

3. Tr. Amer. Assn. Obstetricians and Gynecologists, 1893.

TREATMENT

It will not be necessary to speak very fully on the treatment of the cases of acute primary over-strain or secondary myocarditis. If we keep the pathology clearly in mind the methods of treatment will suggest themselves. The primary and most absolutely essential requirement is rest, immediate, complete and continuous. It must not be theoretical rest, but it must be thorough and continued till the symptoms and signs of dilatation have subsided, and even then the resumption of activity must be gradual and interrupted. The diet must be plain, simple and digestible. Tea and coffee may be used moderately if the patient is accustomed to them. Tobacco should be absolutely prohibited. In the acute stages, if there is much precordial distress, cold applied to the precordium is often grateful and helpful. When there is dyspnea and pulmonary edema with cyanosis, etc., a liberal venesection will often give great relief. I do not advocate the administration of medicines usually called "heart tonics," because it is not reasonable to attempt to relieve an overstrained heart by giving remedies whose action is to aggravate that strain.

Brooks,[4] in speaking of the heart failure consequent on the acute infections, says that he is convinced that drugs should not be given to control the over-action of the heart in acute infectious fevers. Still, there does exist a very well marked indication to modify this over-action, if it can be done safely, because of the tendency to acute heart failure (so-called) at the height of the infectious process. Brooks attempts to meet this indication by rest, avoidance of mental stress and occasion-

4. New York Med. Jour., Sept. 9, 1911.

ally the administration of codein or morphin. But he passes very quickly over the discussion of treatment of the acute dilatation (as he names it), which often results as a consequence of this over-action of the heart, because he says, "We all treat it about the same and with equally bad results."

If we adopt the term toxemic shock to designate those cases of apparent heart failure which so often occur at the height of the infectious diseases and septic processes, and if we accept Henderson's statement that traumatic and toxemic shock are identical in their pathology, and if we adopt as the basis of that pathology the fact that the circulatory conditions in shock are due to tonic contraction of the heart — exaggerated systole and deficient diastole with possibly weakened venopressor mechanism — we have a rational basis of treatment, viz., to relieve the spasmodic systolic contractions and increase the diastolic relaxation, so that a larger quantity of blood will be received by the heart from the distended veins and distributed to the tissues of the body. And this indication is as imperative in toxemic shock as in traumatic. Crile recognized the conditions and tried to meet the indication by a rubber suit, which, when placed inflated caused pressure over the surface of the body and forced the blood from the veins into the heart and arteries. Henderson has suggested that the free administration of carbon dioxid would relax the heart and equalize the circulation.

I have accomplished the same thing (in traumatic shock) by the intravenous administration of very large doses of veratrine. The blood-pressure was brought to normal. The amplitude of the heart beats was increased, and normal circulatory conditions were restored.

In those cases of apparent heart failure following violent exertion, in which the heart is contracted and small, this treatment is not as imperative as in toxemic shock, because the causative over-strain is generally comparatively transient, while in shock the evil influence of the toxins is continuous. In these cases of over-strain absolute and continued rest may and probably will allow the heart the resume its normal function. But if a fatal issue seems imminent, cardiac relaxants must be employed. Cardiac tonics are absolutely contra-indicated.

But these various therapeutic measures simply palliate, they do not cure, although they may postpone a fatal issue by restoring the crippled circulatory apparatus.

In the meantime the indications are support, eliminate and aid by sera, by vaccines and in every possible way the natural physiological resistance.

THE PHYSICIAN AS AN ADVISER

By virtue of his greater acquaintance with worldly affairs and the position he holds of viewing a young man's qualities in the abstract, the physician is not overstepping his position in directing the youth to a proper calling. When physical conditions should not permit violent or the usual school-boy exercises, he should be warned of the ill effects of such and a proper line of pleasurable sports be laid out.—E. T. Bush, *New York State Jour. of Medicine.*

MISTAKES

There are bad mistakes, slight mistakes, mistakes of omission and those of commission, mistakes due to incomplete, inaccurate, or erroneous observation, and mistakes due to hasty or illogical conclusion. There is a tendency to attach too much importance to some of the instrumental and other elaborate methods of diagnosis and to underestimate an all-around clinical experience and knowledge.—Leonard, *Journal Missouri State Med. Assn.*

UTERINE PROLAPSE*

J. H. CARSTENS, M.D.
Detroit

This condition is generally caused by injury, although in very rare cases it is found in virgins, and then due to a general condition of ptosis, and once in a while to a hypertrophy of the cervix.

As a rule it occurs after child-birth from injury to the pelvic floor or a tear in the uterus. It may also be caused by subinvolution. Prolapse caused by fibroid tumors, is so very rare that it is hardly worth mentioning.

Knowing the etiological factors, naturally a great many of these cases can be prevented by proper obstetrics. Prompt repair of injury, looking to the after treatment, proper involution, etc., will prevent occurrence of the trouble in many cases; still there are severe cases of labor, small pelvices, or a very large child, where the most able obstetrician will have that condition follow labor. In fact in many cases it is an excessive dilatation of the vagina, which never returns to its normal or nearly normal condition. There is a relaxed state of the pelvic outlet, with weakened uterine ligaments.

But there is no need to call your attention to all these little points, which you know as well as I. What I want to call your attention to is, how to relief these conditions. In the early stages, especially in young women, this can often be relieved by simple measures of keeping the patient in bed and the use of tonics, proper feeding and the use of astringent tampons, and injections, if the lacerated perineum has been immediately repaired. Later this mode of treatment can be amplified by the use of a well-fitting pessary, and the patient being allowed to be about.

In the majority of cases, however, uterine prolapse is brought about gradually by repeated child-births, each adding a little to the relaxed condition, and, especially if they are in rapid succession, each reducing the woman's general vitality a little more, until the weakened conditions of all the supporting parts is brought about, and the womb finally protrudes, becomes raw, and pulling down with it perhaps the bladder and rectum.

These are the kind of cases that generally come to me, and then only surgical means will be of avail. The question is what to do in each case, they vary so much. In some of the milder cases in young women a plastic operation of the vagina and perineum will be sufficient. In other cases an Alexander or Gilliam operation with restoration of the perineum will relieve the case, and not interfere with future pregnancies.

The temptation to do a ventral fixation is very great and was formally frequently performed, but with the danger during future labors, it has been entirely abandoned in the child-bearing age. The most difficult cases we come across are those of women who have passed the menopause, where the trouble comes on at the age of 50 or 60, caused by hard work in many cases of poor women, or as the result of severe coughs, or repeated attacks of coughing (whatever the cause may be).

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

In these cases the uterus comes entirely out of the vagina, pulling with it the bladder, causing trouble in that viscus, also pulling down the rectum, stretching the vagina, and the perineum to a great extent. Some of these cases have abdominal troubles, such as involution of the appendix, gall-stones, or perhaps adhesions, in such it is best to make an exploratory abdominal operation, find out the exact condition in the abdomen, do whatever is necessary, and then take the uterus, pulling it high up and making a firm ventral fixation. This will pull up the uterus and bladder, and if you add to this a little narrowing of the vagina, perineorrhaphy, your patient is permanently cured.

In some cases, however, there is no excuse for this kind of operation, we must do everything from below, and the most elaborated and complicated operations have been devised, such as anterior, colporraphy, removing part of the uterus, lifting up the bladder, and stitching the uterus below, after removing more or less of the uterus, if it is large and heavy. Then narrowing the vagina and restoring the perineum. I have tried these various methods, and I have generally found them to fail. I have narrowed the vagina, starting up near the cervix, to the outlet, including the perineum to such an extent, that I could hardly get a lead pencil in, and I found that in the course of six months, the case was just as bad as before. The pounding of the uterus as the result of coughing and lifting heavy weights, or both, soon stretched the parts, and the whole thing can come down again. One can readily see that when the whole support is from below, the uterine ligaments have been stretched too much, and are three times the ordinary length, when the uterus is outside of the vagina. Shoving the uterus up in place, lifting up the bladder, etc., simply causes the various uterine ligaments, to fold upon themselves two or three times, and absolutely do nothing to support the uterus, and unless we open the abdomen either from above or below and shorten the ligaments by folding them some way or shortening them by overlapping we can get no support of the pelvic ligaments.

Hence, all those operations are very difficult and complicated and dangerous, and I have discarded them all.

In women passed the menopause with uterine prolapse, we must either do ventral fixation, which can be done in a few minutes with virtually no danger, or we must do a vagina hysterectomy, and remove the offending organ entirely. When we remove the uterus we can take the broad ligaments, and stretch them together, so as to form a good floor for the pelvis, and the sacro-uterine ligaments are also brought together, as well as the round ones, all these form a good pelvic floor. The fold of the perineum between the uterus, and bladder which generally is quite loose and movable, is pulled over the ligaments from in front towards the back and pulled down in the culdesac and stitched there.

We now have the ligaments shortened, and this bridge across the pelvic floor, the bladder is lifted up and attached to this with the peritoneum. A little drainage tube can be inserted if necessary, and a few stitches in the vagina placed, although generally it falls together and needs none. A tampon is introduced to lift everything up good and high, and the perineum is then restored *secundum artem*. Our patients will not have any relapse, if we have aseptic union.

FRONTAL LOBE ABSCESS*

DON M. CAMPBELL, M.D., L.R.C.S., Edin.
Detroit

Frontal lobe abscess is, to judge from reported cases in medical literature, one of the least frequently recognized focal pus collections in the intracranial cavity.

It is true, perhaps, that this infrequency may be more apparent than real, because in the first place the locality is not one to easily produce focal or localizing symptoms, being, indeed, the so-called "silent" area, and in the second place those septic diseases exterior to the intracranial cavity which are most prone to produce intracranial septic complications of various types, such as extra and subdural abscess, meningitis, septic thromboses and superficial, deep, single or multiple brain abscesses in this region, have not until quite recently gained general recognition in the minds of medical men as potent etiologic factors.

Thus for many years now septic tympano-mastoiditis, both acute and chronic, have been well intrenched in the medical mind as frequent and potent etiologic factors in producing the various septic pathologic intracranial manifestations, as heretofore mentioned.

On the other hand, however, the same type of sepsis in the accessory sinuses of the nose, especially in the frontal and sphenoidal sinus and the ethmoidal cells, has not gained any such wide recognition as an effective cause of the intracranial disease.

So, one may suspect, for these reasons, frontal lobe abscess may be more frequent than the reported cases might lead one to suppose. Halstead and Vaughan,[1] in a paper read before this society, state that up to 1901, only twenty-one cases of frontal lobe abscesses had been reported in medical literature, and since that time perhaps twice that number had been reported.

The etiology of frontal lobe abscess may be said, in general terms, to be the same as any other abscess formation in any part of the body, viz., the lodgment of some form of pus-producing germs in the tissues of the part, resulting in the usual way in tissue destruction and pus formation.

It is conceivable that any distant pus focus or infection resulting in a bacteriemia might be followed by a focal pus collection in the frontal lobe, the pathogenic microorganisms reaching the area through the medium of the blood-stream.

Injury, either direct or by contra-coup, may be the cause of the abscess. There must, however, be in addition to the injury some other factors at work which offer ingress to the pathologic organisms. This may be through a general infection of the blood-stream, as in bacteriemia, or through some local breach of tissue, offering easy access to the microorganisms through the lymphatic stream, or by direct breach of tissue continuity. The causes at work still further back in the production of the bacteriemia are legion and cannot all be enumerated here. Some of them are the acute infectious diseases,

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

1. The Journal of the Michigan State Medical Society, February, 1912, p. 73, et seq.

infection from the lungs and the various pyemic diseases.

Local causes, which perhaps are the most important, naturally include the various septic infections and necrotic processes found in the anterior region of the skull, and among those must first be mentioned the various septic manifestations in the nasal accessory sinuses, such as frontal sinus abscess, septic ethmoiditis and septic infiltration of the sphenoidal sinus. It is well known these sinusites are frequently accompanied by necroses, which may involve the inner table of the skull, resulting in the destruction and the exposure of the underlying brain structures to infections.

The one outstanding and significant fact thus far adduced in the etiology of frontal lobe abscess is that its most frequent cause is septic infection of the accessory sinus of the nose, and that fact once clearly established lends to those diseases an added importance which they sadly need and which will bring to their management much more attention.

The bacteriology of frontal lobe abscess does not present anything of great interest because no one type of infection seems to have a predilection for this area, almost all pyogenic organisms having been demonstrated in the collection of pus.

The signs and symptoms of frontal lobe abscess are obscured by and in fact gradually merge out of the symptoms and signs of the causative disease. Thus, in general septic infections with a bacteriemia gradually, from the signs and symptoms of whatever disease is producing the bacteriemia, will be evolved the signs and symptoms of a gross intracranial lesion. To the symptoms of shock from injury will at some subsequent period be added first the signs, symptoms and blood-picture of septic infection, and later still the signs and symptoms of a gross intracranial lesion.

To the signs and symptoms of a frontal, ethmoidal or sphenoidal sinusitis will be added very insidiously the symptoms of a gross intracranial lesion. The symptoms of a gross intracranial lesion will be those of intracranial pressure and added to them special symptoms, as areas producing localizing signs are invaded. Headache is sometimes found to be more marked in the frontal region; vertigo, pupillary changes; double optic neuritis, frequently more marked on the affected side; extraocular paralysis, producing strabismus and diplopia; various paralyses of face and extremities, motor and sensory; aphasia, if the left lobe be involved. Epilepsy, usually of the Jacksonian type, and certain changes in mentality, the so-called intracranial jocosity being occasionally observed, and sometimes the patient becomes ugly and shows signs of degeneracy.

In the major part those symptoms have no localizing value. The diagnosis must rest on the pathologic course of the intracranial lesion; the unequal optic neuritis, aphasia, extraocular motor paralysis. Certain motor paralyses are helpful when present. The mental changes in the patient are also significant, as is tenderness and swelling over the frontal region.

The skiagraph has been also of use in making differential diagnoses, especially in the detection of bony erosions.

REPORT OF CASE

E. P., aged 17, male. Consulted me first on April 10, 1910. The history of the present illness extended over two weeks, during which time he had suffered severely from pain in his left frontal region which had confined him to bed and prevented sleep. Upon examination his pulse was 85, temperature 100.4 F., evidently suffering great pain over frontal sinus; and also there was present a very considerable tenderness and some puffiness in left frontal

region. The patient had been well previous to two weeks covered by the present illness. The patient was placed in Harper Hospital for observation, as follows:

First, temperature and pulse curve: Steady temperature, highest point 99.4 F.; lowest, 97.6 F. Pulse more variable, from 60 to 80. Urinary analysis, normal. Wassermann, negative, Polymorphonuclear leukocytosis 78 per cent. to 81 per cent. Normal red cells. Skiagraph showed decided cloudiness of left frontal sinus.

While he was undergoing these tests in the hospital his mental condition began to change, his speech became slow, he had evidence of a left facial paralysis, his right thumb and finger flexors became paralyzed and his flexor of hand on the forearm became subsequently involved.

He was then taken to the operating room and the left frontal sinus thoroughly opened. It was full of pus and granulation tissue. The posterior sinus wall was absent and the dura covered with granulations and bathed in pus. The dura was freely exposed, all necrotic bone tissue was carefully removed and the anterior lobe was explored in several directions but no pus located.

The patient was put back to bed and next day was markedly improved, temperature and pulse normal, and what seemed very interesting and hopeful was that all symptoms of intracranial pressure completely disappeared in the inverse order in which they had come—first, the flexor of hand on forearm was restored, and then the finger flexors became normal and the facial paralysis disappeared and the power of speech was completely regained.

The frontal wound healed by granulation and the patient in the course of six weeks or two months was completely well, apparently.

However, in November, 1910, he returned, saying that the night before, while at a theater, he had been seized with some kind of a spasm which was accompanied by loss of consciousness, probably an epileptic attack.

The frontal sinus wound and region were found perfectly normal.

He was again sent to the hospital for observation and had several attacks of epilepsy, both external recti muscles became paralyzed; he developed a double optic neuritis, more marked on the left side, and rapidly lost his vision until he had only light perception.

The frontal wound was again opened and found to be perfectly healed. No pus could be located. At this time Dr. Angus McLean made a very large osteoplastic decompression bone flap in the left temporal region and made many deep brain punctures with a large trochar in an effort to locate the abscess, but again it was not reached.

The astonishing thing about this operative procedure was the prompt recovery of the patient from all his critical symptoms. The epilepsy entirely disappeared. The eyes became perfectly straight, and the optic neuritis subsided, leaving his vision perfectly normal. The decompression wound healed perfectly and the man went back to his work apparently perfectly well. The really important observation at this stage of the disease was the prompt subsidence of the double optic neuritis and the prompt and complete recovery of vision.

For a year this man remained well. He then returned again, complaining this time of pain and swelling in the forehead midway between the supraorbital ridge and the hair line. The swelling was well marked, tender and boggy, separated by a normal area from the old frontal wound. This swelling was freely opened and at its bottom a necrotic area was found in the frontal bone which, when removed, liberated an immense abscess leading down into the left frontal lobe. This was freely opened and drainage introduced to its bottom.

Again the patient made good progress towards recovery and finally the wound granulated and closed.

This time, however, the period of quiescence was brief, and when the abscess was again freely opened there seemed to be a cavity as large as the whole frontal lobe, and this time the procedure terminated in the death of the patient.

Post-mortem examination showed an immense pus cavity with the walls involving the whole frontal lobe and draining by a very large opening through the frontal bone.

It seems to me that the one great reason for so many brain abscesses, even when located and drained freely, failing to heal, is a mechano-physical one. The soft walls of the cavity cannot collapse and heal together because the brain is surrounded and supported on all sides by the solid uncollapsible calvarium. It cannot collapse and its attachment to the brain surface prevents the collapse of the walls of the pus cavity, the outlet closes, but leaves

some small dead spaces unhealed and infected, the inevitable result of which is recurrence.

The only possible improvement in management would be a counter-opening through a large decompression flap made at the same time as the original opening into the abscess cavity, by which means a species of through and through drainage might be established which perhaps might result in obliteration of dead spaces.

The fact that these abscesses are sometimes multiple adds another difficulty in getting permanent healing.

The pathologic specimen shows clearly the immense size of the pus cavity, its thin walls and its ample opening for drainage.

57 West Fort Street.

DIET AND CARDIOVASCULAR DISEASE

In heart and blood-vessel disease, particularly in the more advanced stages, diet is more than half of the whole treatment. This is true because cardiovascular disease has its origin more than half the time in errors of diet. There is no doubt that the increase of cardiovascular disease as shown by statistics is, in a great measure, due to the altered dietary of the present generation. Formerly a man who wrested his living from the soil got enough exercise, he was always well supplied with an abundance of vegetable food, and he escaped the consequences of a diet too rich in protein, and the consequences of the suboxidation of his food.—Bishop, *Medical Record*, Sept. 28, 1912.

DOCTORS WILL STILL BE DISSATISFIED

Evidently impressed by the vehemence and unanimity with which the English doctors have protested against the inadequacy of the remuneration offered them under the new insurance law, the British Government has increased its appropriation for medical service for the poor by $5,000,000 a year. This will enable it to pay the selected physicians $1.80 annually for each insured person intrusted to their care—a considerable advance from the $1.44 originally offered, but still below the $2.04, which is the very least for which the doctors have been saying they could, would, or should do this work.

Even the largest of these amounts seems absurdly small, but, if received from each of a large number of persons, many of whom would go through the year without requiring any treatment at all, it might be something like a living wage. Our own "lodge doctors" are content with analogous sums, but they are considered disgraces to their profession, and they usually are, in more important respects, too, than in the acceptance of small fees.

The only reasonable plan for the British Government to adopt in carrying out its insurance ideas would be to employ the doctors on fair annual salaries, making them public officials giving all their time to public service. That is what is done by all countries with respect to army and navy surgeons, and such salaries are accepted by thoroughly efficient men with no loss of professional or personal dignity.—*New York Times*, Oct. 4, 1912.

REDUCTION OF COLLE'S FRACTURE

In a Colles' fracture, the future usefulness of the hand depends on perfect reduction of the deformity. In robust subjects general anesthesia will be required. After reduction the forearm is encased in antero-posterior plaster-of-Paris splints, the hand being well flexed and the splints not extending beyond the metacarpophalangeal articulation. This enables the patient to freely use the fingers and prevents the stiffness that followed the old plan of treatment. The bandage should be removed once a week and the parts thoroughly massaged. Where any difficulty is experienced in keeping in good apposition the broken ends in fractures of the metacarpus, metatarsus and phalanges, the fracture should be exposed under rigid asepsis, holes drilled in the bone, and the bone sutured with kangaroo tendon or 30-day chromic catgut. In all fractures, skiagraphs should be taken after reduction has been accomplished in order to determine the accuracy of apposition.—W. W. Harper, *International Jour. of Surgery*.

THE MANAGEMENT OF GONORRHEAL RHEUMATISM*

FREDERICK M. HARTSOCK, M.D., and JAMES L. ROBINSON, M.D.
Medical Corps, U. S. Army
Fort Wayne, Mich.

It has been estimated that about 2 per cent. of joint affections complicate gonorrhea. These cases range in severity from the most evanescent joint twinges to the formidable purulent arthritis. A moderate case of gonorrheal arthritis will give the practitioner much anxiety because of the slight relief afforded by ordinary methods of therapeusis; in spite of all recognized modes of treatment, the condition often fails to improve, and the impatient sufferer seeks relief elsewhere — even to the extent of patronizing irregular practitioners.

The array of remedies vaunted for the relief of gonorrheal rheumatism leaves the physician in doubt as to the value of any one measure of relief, and often all of them fail though conscientiously applied.

While the gross pathology of gonorrheal rheumatism is known to us, the factors bearing on the recrudescences noted are not fully understood. It appears that the influence of the gonotoxins on joint structures may be one of the factors without the presence of the microorganism, and that the absorption of toxins from some distant focus of infection, such as the prostate or seminal vesicle, may account for the joint inflammations. We are aware that surgical measures devoted to the eradication of focal infection frequently are followed by cure of the rheumatism.

In about one-third of the cases of this affection, the gonococci can be demonstrated, directing, therefore, our therapeusis in the majority of cases to general measures designed to the elimination of the infected foci and the destruction of neutralization of the gonococcus or its toxins.

As has been stated, subjectively there may be the slightest suggestion of joint pains in gonorrheal infection, or the patient may be inflicted with a most destructive form of arthritis, depending in the one case on the local effect of absorbed toxins and in the other on the local presence of a virulent organism.

König classifies gonorrheal arthritis as follows:

1. Hydrops gonorrhoicus.
2. Arthritis serofibrosa.
3. Arthritis purulenta.
4. Arthritis phlegmonosa.

These classes really represent various steps in the gonorrheal process in the joints, and one may merge into another, or the simplest form may be so mild as to be hardly noticed; so mild even, as to have attention directed to it only by the slight pain experienced.

In all forms, the periarticular structures participate in the inflammation to a greater degree than those of the joint proper; this being characteristic of gonorrheal joint invasion. The above classification is determined on the character of

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

the effusion. In the simple serous form, there is an effusion into the joints which would resemble any other subacute synovitis, though it is more chronic in character. The serofibrinous or plastic type, is the commonest seen, and includes almost all the refractory cases. Even in these the gonococcus cannot always be found.

At the Johns Hopkins Clinic, of twenty-nine cases the organism could be demonstrated in but sixteen. In this form, fibrin is deposited on the cartilages and is afterwards organized by vessels growing on the synovial membrane, causing erosion of the cartilage on which the granulations rest. The folds of synovia adhere, the capsule becomes thickened and even the ligaments, tendons and bursæ become involved in the plastic exudate; the damage resulting seriously hindering the function of the joint, on the subsidence of the active inflammatory process.

The purulent types are merely severer forms of the above and resemble any purulent arthritis. In these the organisms are almost always present. Secondary infections play little part in any but the severer forms.

It is agreed that the organism reaches the joint in all cases by the blood from the focus of local invasion — this occurring at any time, but generally within the first four months of infection.

TREATMENT

From a consideration of the pathology, it is evident that treatment must follow along these lines: 1. Prompt eradication of the local disease. 2. Use of a suitable antitoxic or bacteriolytic serum. 3. Especial attention to the joint by providing immediate rest.

Local treatment is indicated in the acute invasion of the mucous membranes according to the individual preference of the practitioner. Next, the areas of retention should be sought after and eliminated. These latter are all-important, and are usually overlooked. They include:

1. The urethral follicles, which are best treated by massage on a sound.

2. Cowper's glands, found on each side of the median line 1 cm. from apex of the prostate. Massage or incision is indicated.

3. The prostate gland—all tender infiltrated areas should receive massage followed by irrigations with silver salts.

4. The seminal vesicles. These constitute the principal foci of infection. Three measures are employed, each having its champion, though all are directed to the essential eradication of the local disease. They are: massage, vesiculotomy and vasotomy. The latter operation has lately shown excellent results with the least trauma.

5. The epididymis. Herein the Hagner operation will be found of service.

6. The kidneys and ureters. As has been recently recognized, the ureteral catheter may demonstrate the gonococcus through cultural measures.

7. In females, the glands of the vagina, urethra and cervix should not be overlooked.

The joint itself should be immobilized at once to secure absolute rest. Massage in the early stages before the focal infections are eradicated is distinctly contraindicated. In the subsiding stages, the joint should be gently moved actively and passively to restore its function. In the active stage of the joint inflammation, the Bier's treatment, hot air, douching and electricity will be of little service, though after movement has been established, it may be employed.

Systemic treatment of gonorrheal rheumatism has resolved itself to the use of

vaccine and serum to the exclusion of drugs.

It is open to question as to whether the treatment of those cases amenable to vaccine and serum therapy is being handled on a rational scientific basis. As we will show, vaccines are of doubtful utility, and reports on vaccine therapy are at least open to question as to whether or not the authors are overenthusiastic and have failed to take account of cases which, under ordinary conditions, would not undergo spontaneous improvement or cure, reasoning all improvement to follow along the lines of the opsonic resisting powers, a theory which in the opinion of the writers is fallacious and ill-founded.

Vaccine therapy has utterly failed in acute infections, in general gonococcal infection, in lesions of the female adnexa, and reports are doubtful in prostatitis and chronic urethritis, and ascending lesions of the genito-urinary tract.

The vaccines against gonococci therefore differ from many other more evident potent vaccines in that they fail in even subacute cases.

This brings us to consider the gonococcus as an entity and set it in a class by itself in connection with opsonic therapy.

Let us consider the life history of the gonococcus—it exists, not as many of the pathogenic organisms, free in nature, but is strictly parasitic for man. It is transferred from human to human. Its life is analogous to that of the more highly organized animal parasites — it taking advantage of a natural function of human life to provide itself a means of continuous and perpetual existence.

Let us consider the gonococcus as we would the guinea worm, the *Dracunculus medinensis,* for example, to illustrate the idea we wish to convey. Here we have a variety of filaria whose normal adult existence is in the connective tissue of man —when the female is ready to expel its embryos, it locates itself in some part of the human anatomy, likely to be in juxtaposition to outside water. From this point the embryos are expelled through the skin and reaching water, complete their life cycle by finding their way into the human stomach and thence the connective tissue.

We have in the gonococcus, an organism which, by its very nature, must live from one individual to another to complete its cycle of existence. It lives for the most part in the human genitalia. In order to provide means of conveyance, the leukocyte is utilized—the inflammation resulting from the gonotoxin causing sufficient liquid media to ensure easy connection through contact from one individual to another, completing the life cycle of the organism.

Now, as to the leukocyte — we claim that this responds not in the sense of a defensive agent to the part, but as an agency of transfer for the gonococcus. The opsonic theory here is set to naught as to the protective power of the leukocyte — in this case the white cell is a positive detriment, aiding in the spread of the infection and perpetuating the existence of the gonococcus. Surely, therefore, we cannot apply therapy on the opsonic basis in consideration of the above.

Is it not a fact that intracellular gonococci are always vigorous; that they take stains well in the cell and that the only forms seen poorly stained are extracellular? This brings us then, to state that any measure designed along the lines of opsonic therapy is wrong. From the above we may deduce therefore, that destruction of gonococci is by means of bacteriolysis and not phagocytosis. This is shown clinically, by the benefits derived from serum therapy, as opposed to vaccine treatment.

That the opsonic therapy is of no avail is admitted by investigators when they conclude that the opsonic index is of no guide in treatment. Most investigators have found a lowering in the index, the reason for which is obvious in consideration of the above facts in the cycle of the gonococci. Further, it may be said that even in individuals strains are not influenced, as all agree that stock vaccines serve as well as the personal variety.

Now to return to the reports from vaccine, we propose to show that these are not at all convincing. Keeping in mind the clinical classification of the joint lesions, it is easy to understand that vaccine therapy, if used, would not be of avail in the purulent arthritides where surgical intervention is imperative. The other classes take either one of two courses. They recover spontaneously or run into a chronic form with disappearance of gonococci in the joints, but with severe structural changes and loss of function. We claim that the optomistic figures from vaccine, include the benign class as stated.

Jarvis[1] concludes:

1. Vaccines are inoffensive and the stock variety act as well as the personal.

2. Opsonic index guide unnecessary, and small doses as efficacious as large.

3. Emphasis—that local treatment should not be neglected.

His ideas of curative results are inconclusive.

Schmidt[2] concludes after citing a series of cases:

"The matter is not settled. It is not always an easy matter to determine that an effect is due to the agent employed. Neither form of treatment has caused me to become optimistic."

His table of cases is interesting, in that the percentage of benign cases, which would have ultimately recovered, are included in cures.

Thus, by serum therapy:

Acute Cases: Cured, 1; improved, 5; not improved, 1; total, 7.

Subacute Cases: Cured, 2; improved, 2; not improved, 2; total, 6.

Chronic Cases: Cured, 1; improved, 3; not improved, 2; total, 6.

By vaccine therapy:

Acute Cases: Cured, 1; improved, 5; not improved, 0; total, 6.

Subacute Cases: Cured, 4; improved, 1; not improved, 1; total, 6.

Chronic Cases: Cured, 3; improved, 4; not improved, 0; total, 7.

Note that of the total, there are in the serum series, four cures in nineteen cases, in the vaccine series there are eight cures in nineteen cases, surely these are not wonderful results in either case.

The optimism for vaccine therapy is kept alive by the rather unimportant individual reports of cases, results which in most ways should be included in the series mentioned of benign infections, which would ultimately recover—the failures not being recorded.

For example, here is a typical report of this kind:

McOscar—*Lancet*, 1909, reports a case of rheumatism one month duration when seen first. Under vaccine, recovery in five weeks. Writer is optimistic about vaccine treatment. The authors of this paper have seen many cases recover in less time without vaccine.

Another style of report may be cited.

Whitmore—*Philippine Journal of Science*, December, 1910. Used vaccines on eighteen cases and has reports of twelve more treated with same remedy. "All promptly recovered." But qualifies this by stating that he has learned since that two showed only moderate improvement and one was uninfluenced. This author's percentage of recoveries is much higher than the others, but concludes, however, "It is in no sense a cure-all."

Serum therapy offers the most hopeful outlook in all but the chronic cases of gonorrheal rheumatism. The antitoxic

1. Jarvis: Presse méd., 1910, xvii.
2. Schmidt: Therap. Gaz., 1910, xxvi.

serum prepared after the method of Rogers and Torrey, by injecting suitable animals with large numbers of killed germs and afterward treating the serum as in the case of diphtheria antitoxin, is the most efficacious preparation. Seventy-five per cent. of successful results are claimed by this method of treatment. The remedy is giving us the most brilliant results, but the writers wish to qualify by adding that the serum will be of little avail unless the focal infection is eradicated.

In addition, the joint itself must be considered a source for the further spread of the disease and extension to other joints may be prevented by enforced and immediate rest of the part. This is in view of the multiplicity of lesions, there being about an average of one and a quarter joints involved to each case.

Our experience with the serum has developed the following points:

1. It must be used early and given in doses of at least from 4 to 10 c.c.

2. The serum should be given in at least three day intervals.

3. As the preparation is not standardized, it must be tested out in each case.

In our clinic, we have treated fourteen cases of gonorrheal rheumatism with thirteen cures, one case resulting in ankylosis and loss of function.

The conclusion put forth in this paper as to the relative value of vaccines and sera follow careful individual observation and trial of both remedies — it is hoped that our experience may call attention in the one case to the value of anti-gonococcus serum and in the other to the inefficacy of vaccines.

By courtesy of the Research Department of Parke, Davis & Company, the authors were enabled to follow certain investigations relative to the above paper.

UNION CARDS FOR M.D.'S

"Medical blacklegs" is the pleasant term that good union physicians in England hurl at those members of the profession who are suspected of traitorous willingness to accept terms offered by the government under the National Insurance Act. The act provides free medical service to the insured, the attending physician to be compensated out of the insurance fund. The British Medical Association, on behalf of a large majority of physicians, has indignantly rejected the government's terms. In effect it is a strike, and those doctors who do not stand by the union come in for about the same verbal amenities that a staunch union teamster frequently visits upon a strikebreaking "scab."

We have not heard of any bricks being thrown, but there are threats of social ostracism; and an acute critic points out that the union doctors go far toward syndicalism, because they propose to accomplish their end by direct action—that is, by withholding their services until the government surrenders.

It is an interesting shindy and illustrates again the silly futility of decrying "class feeling" and "class prejudice." Wherever a given set of men have a common economic interest you will find those men acting together the moment that interest is threatened—whether they are clergymen, lawyers, doctors or brakemen. And in that cause they soonest lose their tempers. On all other points of difference they may agree with you amicably; but touch the payroll—and they reach for a brick.—Editorial *Saturday Evening Post.*

THE HEART IN LABOR

If an acute failure of compensation occurs during labor it should be met by prompt measures and delivery should be completed as rapidly as possible. Venesection with the extraction of a pint of blood, or possibly more, will take the load off the distended right heart and allow the heart to shrink down. The use of digitalis, strychnin, etc., may prove of great advantage, but the most important thing at this time is to relieve the strain by emptying the uterus as quickly as possible.—Newell, *Journal A. M. A.*, Sept. 28, 1912.

THE OPERATIVE TREATMENT OF FRACTURES*

GEORGE H. PALMERLEE, M.D.
Detroit

The operative treatment of compound fractures has been not unusual for many years, but the operative procedure in closed fractures is rather new; only recently have surgeons given their attention to this method of treatment of closed fractures.

Great advances have been made in abdominal surgery; a large amount of time and energy is and has been devoted to perfecting the technic of various operations, while the treatment of fractures has made but little advance in the past fifty years, although the setting of a bone is one of the oldest of surgical procedures.

The use of the *x*-ray has been of some advantage in the treatment of fractures, and it has also shown us how impossible it is to get the fragments in good apposition; yet while not in perfect apposition a good functional result is often obtained. However, the laity have an idea that it is an easy matter to reduce a fracture, and the bone should be in perfect line.

The treatment of a fracture is of the utmost importance. Instead of treating it in a rather indifferent manner, and trusting to good fortune for satisfactory results, the surgeon should give it his individual attention as much as he does to abdominal operations.

The *x*-ray is a great aid in securing a better approximation, but no matter how perfect an apposition may be obtained it is far more difficult to maintain the fragments in good apposition, and often absolutely impossible in spite of extension and various splints.

Some will oppose the operative treatment of closed fractures because it makes a compound fracture of every closed one, and there is danger of infection. It is true, infection may happen, but with modern surgical technic it is reduced to a minimum. However, the possibility of infection cannot be disregarded. Another argument against operative treatment is that it is not necessary to have the ends of the bone in accurate apposition in order to secure union, and a good functional result. In many instances this is also true, and I do not think that all closed fractures should be operated on. If the radiograph shows that the ends are in a fairly good position and that there is no shortening, and a probability of good function without crippling deformity, I believe it is a safe rule to let well enough alone; but if it is an oblique, spiral or comminuted fracture, and cannot be maintained in position, and there is shortening and displacement, which tends to recur and possibly result in a crippling deformity I do not hesitate to cut down, and fix the fragments by means of a plate and screws, or by other means.

Lane says:

> "In deciding as to whether the surgeon should operate upon any particular fracture, or whether he should be satisfied to treat the case by manipulation, splints, massage, active and passive movements, etc., the importance or not of restoring the fractured bone or bones to their normal should be the guide."

Recently, more surgeons are using the open treatment, and it seems to be growing in favor. It is needless to say that it

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

should not be undertaken anywhere, except in a well-equipped hospital and by one who is experienced and is in the daily habit of thorough asepsis. It should not be undertaken by the occasional operator, as poor results and disaster will follow, and the operative treatment will be brought into disrepute.

In cases of comminuted fractures and faulty union, the seat of fracture can be cut down on and the old callus chiseled or sawed through, the ends of the bone being held in apposition with plate and screws. Various materials have been used in fixing the fragments. Silver wire is probably the most common suture used. Bronze aluminum wire has been used and highly praised by some; it is strong and can be twisted up very tightly without breaking. Picture wire is often used. Kangaroo tendon is recommended, and I think in cases where there is not much tension it is possible that kangaroo tendon might be given the preference over a non-absorbable material.

Long screws are indicated where a piece of bone is broken off, as for instance, fractures of the maleoli, and great trochanter, and neck of femur; but where there is much strain as there is on the shaft of a long bone, the plate is by far the most satisfactory. Murphy uses nails in Pott's fractures, and in fractures of the neck of the femur and humerus.

In some cases of double fractures, as for instance both bones of leg or forearm, and in cases where there are several fragments it is not always possible to put on a plate and have the screws hold. If it is comminuted it may be necessary to fasten all the fragments with silver wire or chromic gut, and put on a plate to hold them to the distal and proximal ends of the shaft. Occasionally it is necessary to use more than one plate to hold them securely.

Dr. Martin of Philadelphia says:

"If the fracture be oblique and not likely to be subject to severe strain, screws, nails, staples or even tendon suture through drill holes will prove adequate. If by none of these means can the reduced fracture be retained in position, the steel plate is indicated."

The advantages of the operative treatment in selected cases are: better results are obtained; there is a very noticeable absence of pain; fragments of muscles are easily removed from between the ends of the bone which would prevent union taking place; injuries to nerves, and repair of muscle, tendons and blood-vessels is possible; removal of spiculae and relief of tension in the surrounding parts due to extravasation of blood; the skeletal mechanics are restored to normal; it affords an opportunity to remove all obstacles which prevent reduction by any other method; shortening is prevented; if the fracture involves a joint there is less liability to be impaired motion in same.

As to what becomes of the plates: Many will have to be taken out on account of a persisting sinus and irritation; others on account of infection. I have had to remove plates and wire in a few instances, when the wound would not heal, and at various periods from five to ten weeks; and a few on account of infection. Others I have been able to trace for a year or until the patient was lost track of, and up to the time the individual ceased to be under observation the plate or wire had given no trouble. The more tissue intervening between the plate and skin there seems to be less liability of a sinus forming.

At the time of removing the plates I have found the screws in most instances quite firm in the bone.

Drs. Bartlett and Hewitt of St. Louis have done some experimental work to determine how firmly the screws hold:

"An average pull of 95 4/5 pounds is required to dislodge clean No. 3, ⅜ inch screws, from dog bones with average cortex of 2 mm. after they have been in place from one day to

seventy-one days. On the other hand 41 7/9 pounds will accomplish the same thing with infected screws."

Dr. Starr of Toronto says:

"The whole question seems to me to sum up into two ideas—the one, skeletal deformity with or without functional results; the other, a perfect anatomical result; with perfect function and a short convalescence."

Lane advises operative treatment in most closed fractures, and his results are convincing; while other well-known surgeons claim equally good results with the conservative treatment; and, again, others stand on middle ground in the matter and think it advisable to operate on certain well-selected cases.

At the present time, I believe that the operative treatment should not be routine and that a radical position in either direction should be taken, but that each case should be a law unto itself, due consideration being given as to which method will give the best results, with the least danger to the patient. Quoting Lane:

"Till surgeons generally have improved their technique sufficiently, and have acquired a greater familiarity with the operative treatment of fractures, a varying degree of risk must necessarily accompany any open operation, and this danger must be taken into consideration."

There are certain well defined and clear indications for operative interference, but the patient will be infinitely better off to be treated conservatively, than to be operated on by some one who is not thoroughly grounded on the technic. Therefore I would advise under most circumstances that more care and skill be used in the non-operative treatment; a careful study of the case at hand and the action of the muscles in causing displacement. Reduction of a fracture should be undertaken with a clear and well defined idea of the mechanics of the part; and use every means of reducing the fracture by intelligent use of extension, counter-extension, posture, etc., and never neglect to make use of an anesthetic. If after a thorough trial and well directed efforts, reduction is impossible or unsatisfactory, the patient should be sent to the hospital and the operative treatment advised. I think that practically all fractures of the patella and olecranon should be operated on using an absorbable suture.

TECHNIC

Asepsis must be carried to its extreme development. The most strict asepsis in these cases is indispensable. Operative treatment should only be undertaken in a well-equipped hospital; where if in the hands of a competent operator, there is little danger of infection. Rubber gloves and face masks should always be worn, and a number of special instruments are absolutely necessary in order to do perfect work. Lane and others have devised instruments for holding the ends of the bone in apposition and for manipulating the fragments and thereby avoiding the contact of the fingers with the wound. The preparation of site of operation should be thorough. It must be well washed with soap and water, shaved and sponged with alcohol 70 per cent., and a sterile pad applied; when patient is placed on the table the field of operation is flushed with ether, and alcohol 70 per cent., and then painted with iodine. After the incision is made of sufficient length to give ample room, the skin around the wound is covered with towels and fastened at the sides and ends of the incision with small tenaculum forceps, thus preventing anything coming in contact with skin and wound.

The incision should be made at a point which will give easy access to the fracture, avoiding important nerves and blood-vessels by retracting to one side and separating the muscles at their intermuscular planes. If not possible to do this, separate

the muscular fibers in their longitudinal direction.

The seat of fracture having been exposed, fragments and pieces of tissue, if there are any between the ends, may be removed. The ends of the bone should be freshened if it is an old ununited fracture. The fragments are approximated by means of an elevator and long bone forceps devised for that purpose. The plate is now placed over the periosteum and the bone and plate held with a bone and plate-holder; the holes can now be drilled and screws put in with very little trouble. Hand drills are, as a rule, continually giving trouble, the point coming out when it has penetrated the bone or becomes loose in the holder, besides considerable pressure is required to make the point enter the bone, and more trauma is produced. The Richter hand drill is the best hand drill that I have used.

I have had great satisfaction in using the dental foot-power engine, the head and driving shaft of which can be easily removed and sterilized in carbolic-acid solution and rinsed with alcohol. The velocity attained with this apparatus makes the drilling of the holes easily and quickly accomplished. I have used the ordinary twist-drill points which can be obtained of a machinery and tool-supply house.

The size of the drill point should be the size of the base of the screw and not the diameter of the periphery of the thread. This is Lane's method of determining the size of the point which will give the screw a secure hold in the bone when it is driven home.

Screws.—Are a special pattern differing from the ordinary wood screw in that the thread is cut up the head and of various sizes usually three-eighths to five-eighths inches in length, guage No. 5 and 7. For children a smaller screw is used—guage 3. I believe the screws should not be long enough to penetrate the marrow, and I now cut the screws off as short as possible.

Plates.—As designed by Lane are steel of various sizes and shapes for the different bones for which they are intended. There is now on the market a vanadium steel plate which is claimed to be stronger and at the same time somewhat smaller, which may be an advantage in lessening the amount of foreign material in the wound. Some operators advocate aluminum strips with holes bored at intervals from which a piece may be cut the desired length as required.

The plate should be applied so that as much tissue as possible will intervene between it and the skin, otherwise there will often be a sinus which will not close until the plate is removed.

Closing the Wound.—Remove all clots and control hemorrhage. The deep fasciae and (all) muscular layers should be carefully closed with catgut, leaving no dead spaces. The skin may be sutured with silk-worm gut or No. 2 double chromic, preferably without drainage.

A splint is applied as usual, or a plaster cast, leaving a window for the purpose of inspecting the wound.

Time to Operate.—It is the consensus of opinion that the most favorable time to operate on closed fractures is one week after the injury. It is thought that infection will be less liable to follow. The postponement of operation gives the tissues an opportunity to recover from the local injury and the lymphatics have by this time resumed their normal state. The circulation has become reestablished and the surrounding structures are better able to react from the additional trauma of an operation.

The operator will often find his mechanical ingenuity taxed to the utmost; difficulties will be encountered in approximating the ends of the bone even after the

fracture is exposed. An extension apparatus which can be attached to the operating table, is a great advantage in overcoming shortening. It is surprising how much traction is required to overcome muscular contraction particularly if operative treatment is delayed longer than a week or ten days.

Compound fractures, in my opinion, should be treated expectantly until it is evident that no infection is present before putting on a plate. If the wound is infected, then of course it should be treated until the wound is clean before attempting to operate.

SUMMARY

Closed fractures should be operated on when indicated.

Operation should not be undertaken except in a well equipped hospital, and with the most strict asepsis.

Any fracture which cannot be reduced or when reduced recurs, or a possibility of a crippling deformity resulting, should be operated on without hesitation.

Fractures of the patella and olecranon should always be operated on.

The noticeable absence of pain is very striking.

An exact diagnosis can be made and any obstacle interfering with union or accurate approximation can be removed.

Foreign bodies and spiculae are easily removed and injuries to adjacent nerves, tendons and muscles may be repaired.

Period of disability ultimately very much shortened in many cases. As much care should be exercised in applying splints or a plaster cast as though no internal means of fixation were used.

Tension due to extravasated blood is at once relieved.

Do not operate until all other means have failed.

410 Washington Arcade.

VAGARIES AND CREDULITY OF MEDICINE

One sometimes wonders why mythology should have dealt so liberally with the healing art, and the god Aesculapias should be called the Father of Medicine, when authorities admit that he was the son of Apollo and the nymph Cironis, whom Neptune loved, and who was changed into a crow by Minerva, and yet the thinker never ceases to wonder at the vagaries of our profession, nor at the credulity of those in need of our service.—Swope, *New Mexico Med. Journal.*

DANGERS OF GOITER OPERATIONS

The main dangers in goiter operations, generally speaking, are hemorrhage, compression of the trachea, difficulties arising from the location of the goiter (retro-esophageal, intrathoracic, etc.), and injury to the recurrent laryngeal nerve. In exophthalmic goiters the increase of the toxic symptoms following the operation is by far the gravest danger.—Schwyzer, *The Journal Lancet.*

CARE IN ANESTHESIA

Examine every candidate for anesthesia thoroughly for evidences of cardiac, renal, or pulmonary fault; remember the omnipresence of tuberculosis; give the patient the benefit of the doubt, and, except with the most positive contra-indications, use chloroform.—Hart, *Journal-Lancet*, Oct. 1, 1912.

SEWAGE DISPOSAL

A sewerage system, by getting rid of outdoor toilets, greatly conduces to decency, comfort, and cleanliness, and even obviates one danger of disease (carriage of toilet discharges by flies from the outdoor closet); but it also concentrates all those discharges into one foul union and the disposal of this often endangers other communities. There is no real advance in transferring the burden of infectious disease from one community to another by passing the sewage on from one water-supply to another.—Hill, *Journal-Lancet*, Oct. 1, 1912.

CHRONIC DIARRHEA AS A SURGICAL SYMPTOM*

LOUIS J. HIRSCHMAN, M.D.
Detroit

In the last few years largely through the investigation and study of the two prominent symptoms of disturbed intestinal function, namely constipation and diarrhea, the attention of the medical profession has been focused on the terminal five feet of the intestinal tract, the anus, rectum and colon.

The etiology of the vast majority of cases of so-called diarrhea has been discovered through the refinement of the technic of rectal and sigmoidoscopic examination. Likewise in the determination of the true sources of obstructed normal drainage of the intestinal tract, called constipation, in addition to instrumental aids to ocular inspection, the radiograph has been, as in chronic diarrhea, of invaluable assistance in settling, once and for all, the question of definite etiology.

It is my intention to-day to treat of the colon and its pathologic conditions which give rise to accelerated functional activity.

In order that there may be no misunderstanding, I wish to state here and now, that I do not claim that all cases, or even the majority of cases of chronic diarrhea are amenable only to surgical treatment, but I expect to demonstrate that many cases whose predominant symptom is the one under discussion, will be restored to health and normal function by therapeutic aid available through surgical or mechanical means.

When one speaks of diarrhea one naturally pictures a case suffering from frequent liquid, and more or less painful fecal evacuations, and almost invariably a search is started for its causation in some disturbance of the digestive functions.

This is undoubtedly the correct line of reasoning to follow in the case of an acute attack of enteritis or diarrhea, and especially so in those cases occurring in infants and children, and in adults where a clear history of recent dietary excesses or indiscretions is present.

When a case of diarrhea is persistent, rebellious and unaffected or slightly so by ordinary dietetic and medicinal measures, and tends to become chronic, one must look for the etilogic factor of this chronicity, not in the failure of gastric or intestinal physiology, but in pathology located in the intestinal tract and that nearly always in its lower five feet, the colon, rectum and anus.

You will note that it is not my intention to discuss those cases presenting diarrhea as the predominant symptom where the etiologic factor is self-evidently found in recent toxic or dietary disturbances, but to limit myself to the mention of the large number of cases presenting frequent bowel movements as a prominent symptom, in which their source can be discovered only on procto-enteric examination and treatment by surgical means.

One is apt to raise the eyebrows, shrug the shoulders, and enquire what new fields the surgeon intends to next invade. I beg to assure you that the field is not new, but for a long time most shamefully neglected or overlooked. The proctologist is simply pointing the way to a means of successful treatment.

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

When a patient has a catarrhal inflammation of the eye, the nose, the bladder, or the uterus, we immediately recognize the pathology of congestion, then engorgement with increased function manifested by free mucus discharge. A continuation of the condition leads to ulceration of mucous membranes, and hemorrhages more or less profuse.

If the ulcerated part is supplied with sensory nerves, we have an additional and extremely important symptom, the manifestation of pain. Again, if any hollow muscular viscus of the body is irritated, whether it be by the presence of a foreign body or local ulceration, Nature attempts to rid herself of the offending or intruding irritant by repeated, and more or less successful, efforts at expulsion.

This is manifested in the nose by blowing, sneezing and increased out-pour of mucus; in the eye by frequent winking and profuse lacrimation; in the uterus by frequent painful contractions, mucus discharge and metrorrhagia. The bladder evidences its efforts to rid itself of irritants by frequent small, painful and later bloody passages of urine in various forms of cystitis.

Is it any wonder, than, that the bowel, the largest and most powerful muscular eliminative organ of the body should respond in a similar manner to internal irritation? That it does, and with rapidly disastrous results, I will show by the brief histories of a few cases recently occurring in my practice which clearly illustrate certain types of procto-enteric disease.

It may be set down as an axiom that every case of prolonged diarrhea, so-called mucous colitis, dysentery, intestinal catarrh or flux, has its etiologic source in a local inflammatory condition of the intestinal tract, commonly in some portion of the large bowel and usually ulcerated. It is astonishing to one who is accustomed to making frequent examinations of the lower bowel to note how often ulcers of the rectum and sigmoid, in particular, are disclosed, whose existence was wholly unsuspected by both patient and medical adviser. These ulcerations are almost always secondary to some injury to the mucous membrane as a result of the breaking down of the lining of the bowel following some form of local inflammation.

Many of these cases are acute, grown chronic, but when ulceration once starts, it tends to spread either by extension or by contiguity. It is the discharge from the the ulcerated surfaces and the hyperperistalsis induced by Nature's efiorts to expell the irritant which starts up the diarrhea whose chronicity is coexistent with the continuance of the presence of the ulcer.

Many cases of colitis are caused by the presence of pin-point ulcerations, which are revealed only on close inspection through the proctoscope or sigmoidoscope.

It makes no difference whether the exciting microbic agent be the colon bacillus, streptococcus, Shiga, Klebs-Loeffer, or tubercle bacillus, the spirochete, or ameba; local treatment to the ulcer is of prime importance, notwithstanding the employment of the most thorough constitutional, dietary, medicinal, vaccine, or serum therapy.

Every case presenting diarrhea as a persistent symptom should have a procto-sigmoidoscopic examination, and usually radiographs as well, and the number and degree of the ulcerations usually found will determine the local or surgical means necessary to effect a cure.

I will discuss the indicated therapy in connection with the reports of a few cases illustrating varying types of pathology which were brought to me on account of the predominating symptom, chronic diarrhea. Suffice it to say, however, that the same local treatment can and should be

given to a bowel ulceration as is employed in the treatment of an ulcer on any exposed surface of the body or any other hollow viscus accessible to examination. The three cardinal principles to be followed are physiologic rest, cleanliness and drainage. With these principles in mind, let me briefly report the following cases:

Case I.—Mrs. S. G., aged 70. I was called to see her on account of a persistent diarrhea characterized by frequent passages of mucus slightly blood-stained, and small soft movements accompanied by considerable tenesmus. Four weeks previously she had suffered from an attack of acute indigestion accompanied by diarrhea, and the attending physician had prescribed large quantities of bismuth and salol for its relief. After two days there was a recurrence of the diarrhea, but the character had changed as noted above. Digital examination revealed a hard rough mass the size and shape of an English walnut, located in a diverticulum which had formed in the lower posterior rectal wall. After dilating the sphincter under local anesthesia, this was removed and examination showed it to be composed largely of salol. Relief was prompt and permanent.

This case illustrates the fact that insoluble drugs and food materials may sometimes accumulate and act as a foreign body. Nature's efforts at expulsion brings on the symptoms of diarrhea.

Case II.—Mr. R., aged 39. Was referred to me on account of a morning diarrhea which occurred daily, starting at about 4 a. m. He had between that hour and 8 o'clock from three to five motions, which aside from their softness and urgency, were normal in consistency and other characteristics. This had been going on for three years. He stated that usually the first movement was solid, and while the desire for defecation was urgent, it was with great difficulty that he was able to expell the first portion. The other movements were easier. Examination disclosed the presence of an old fissure with accompanying sentinel pile and surrounded by considerable induration and old scar tissue. The sigmoidoscope revealed the presence of a sigmoidal ulcer. The radiograph showed dilatation of the sigmoid and some ptosis of the transverse colon. The indicated therapy was excision of the fissure under local anesthesia and cauterization of the sigmoidal ulcer. In this case when the feces reached the ulcerated portion of the sigmoid, hyper-peristalsis hurried the stool into the rectum where it was opposed by a tonic spasmodic contraction of the sphincter due to the irritation of the old fissure. The removal of the pathology cured the case.

Case III.—Mrs. G. B., aged 30. Had always been constipated until a year ago, then had symptoms of intestinal indigestion with severe colicky pains and distention. Her stools increased in number until she was passing from eight to twelve daily. The stools contained large quantities of mucus, some blood, and were never formed. My examination disclosed considerable tenderness and rigidity over the upper right abdominal quadrant and considerable gaseous distention of the cecum. Radiography showed ptosis of the cecum, distention, and acute angulation and adhesion of the hepatic flexure. Laparotomy with suspension of the cecum, relief of the adhesions of the colon and a Lane's kink, restored the normal position and circulation of the colon with prompt recovery of the patient.

This case illustrates a type where congestion of portions of the colon, due to adhesions and angulation, causes an increase in glandular activity and increased effort on the part of Nature to rid herself of the irritating and undesirable material.

Case IV.—Mr. H. S., aged 36. Had syphilis nine years ago, fistula-in-ano six years ago, and typhoid a year later. Bowels had always been easily upset since typhoid attack. For the last year had had diarrhea, passing from ten to twenty stools daily. Had treated off and on for so-called "catarrh of the bowels." Every stool contained considerable mucus, some blood, and recently pus. Had been loosing control lately. Examination disclosed a blind internal fistula and a tubular stricture with ulceration as far up as the sigmoidoscope could be passed. Between the ulcers were many vascular polypoid growths. Colostomy was proposed and done, with the idea of giving physiologic rest to the affected bowel. When the abdomen was opened, the infiltration and ulceration was found to involve not only the rectum and sigmoid, but the descending and half of the transverse colon. It was necessary to bring the right half of the transverse colon up to use as an artificial anus.

The stricture was excised from the rectum at the same time. Improvement was immediate. The ulcerations under irrigation from above have gradually healed, and the man's weight has increased from 122 to 148 pounds. Five weeks after his operation an intravenous injection of salvarsan was administered, since which time there has been a considerable diminution in the discharge. The ulcerations have healed so well that it is my intention to close the colostomy and restore the continuity of the bowel, a procedure which seemed hopeless at first.

The point I wish to make by reporting this case is that temporary colostomy by providing physiologic rest and an opportunity for cleansing the affected portion is a logical procedure in cases of chronic ulcerative colitis and has been eminently successful in my hands.

Case V.—Mr. C. B., aged 40. A missionary returned from the Philippines. Suffered from an attack of amebic dysentery while in the far East and since his return has had almost daily attacks of diarrhea, characterized by the passage of blood and mucus. Proctoscopic examination showed typical stellate, amebic ulcerations in the rectum and sigmoid, and scrapings from these revealed the ameba coli in great numbers. Appendicostomy, using the author's appendicostomy irrigating tube, was performed and under the administration of daily irrigations of formalin solution, the patient made an uninterrupted recovery. Whether appendicostomy should be performed for direct irrigation or not in all cases of amebic dysentery or other forms of colonic ulcerations, may be a question for considerable debate, but I must say in my experience this method of treatment has cured practically every case. We do not see many cases of amebic dysentery in my part of the country, in fact, the only ones that do come under our observation are from the South or the far East. I have had cases, however, where ipecac and quinin and other so-called specifics have failed and direct irrigation from above has cured the case.

Case VI.—Mr. T. T., aged 60. Was referred by his physician for my assistance to relieve an acute engorgement and inflammation of some old chronic hemorrhoids. This, the doctor informed me, had been brought about by the irritation caused by a persistent and chronic diarrhea of over six years' duration. The patient had suffered from no pain except during the recent inflammation of the old hemorrhoids. His color and general condition were good, but the fecal discharges always contained some blood and were particularly foul-smelling. Examination showed the presence of large prolapsing and thrombotic hemorrhoids, but four inches above the hemorrhoids on the posterior wall of the rectum and extending up to and involving the recto-sigmoidal juncture, was found an adeno-carcinoma.

This case illustrates the fact that every case of so-called chronic diarrhea whether the stools contain blood or not, whether the patient appears robust or not, without regard to age or other local rectal conditions in spite of the absence of pain, one should always examine the rectum and sigmoid to exclude the possible presence of a malignant growth as the true source of a suspected chronic diarrhea. If a carcinoma is not found on sigmoidoscopic examination, radiography may disclose a mass higher up in the colon.

Case VII.—Mrs. E. C. B., aged 47. Previous and personal family history negative. Was referred with a history of recurrent attacks of diarrhea for the last five years becoming particularly aggravated during the last four months, during which time she has had occasional attacks of sharp colicky pain in the right inguinal region. She has had imperfect control since an operation for anal fistula performed some six years ago. Her weight has not varied materially in the last three years and her general appearance is that of perfect health. The fecal discharge contains some pus, large quantities of mucus, and small particles of dark red blood. No clots and no bright blood. Examination of the bowel discharge showed the presence of tubercle bacilli. Procto-sigmoidoscopic examination revealed a normal condition of rectum and sigmoid except for the damaged sphincter and a small ulcerated spot in the posterior commissure of the anal canal. Abdominal palpation revealed a rigidity of the right rectus muscle and pain on pressure over McBurneys point. On account of this, the presence of tubercle bacilli in the stools, a diagnosis of tuberculosis of the ileo-

cecal valve was made. Abdominal section verified the diagnosis and revealed marked induration of the ileum, ileo-cecal valve, and the wall of the cecum for a radius of two inches from the valve. The appendix was normal. Eight inches of ileum, the cecum, and half of the ascending colon were resected and a lateral anastomosis made between the ileum and the transverse colon with a resulting uninterrupted recovery of the patient. Two weeks later a plastic operation was done to restore the continuity of the sphincter. This was also successful and a recent report from the patient four months after operation reports her happy, with normal daily movements, and perfect health.

This case well illustrates the fact that the patient may have a chronic diarrhea with or without loss of weight with negative procto-sigmoidoscopic findings and the pathology can be located only on abdominal examination and the indicated surgical measures carried out to the complete relief of the patient.

Case VIII.—Mr. W. G., aged 46. Gives a history of the gradual onset of diarrhea growing progressively worse until four months from the onset of his trouble, he was having from twelve to twenty stools daily all containing more or less blood. Diet, rest, in bed, and colonic irrigations, all were faithfully tried by several physicians with little or no relief. He was finally brought to Detroit for advice and treatment. My examination showed the entire sigmoid covered with ulcerations which bled at the slightest touch. There was some tenderness over the whole colon but no rigidity of the abdominal muscles. A temporary colostomy was advised with the idea of putting the bowel at rest. I operated at Harper Hospital through a median incision with an idea of bringing down the transverse colon. I found, however, that the whole colon from the hepatic flexure to the rectum was highly injected, friable, and the ulcers extended this whole distance. The appendix was slightly injected but the cecum and ascending colon were not affected. There were many enlarged mesenteric glands. I brought up the upper portion of the cecum making a large artificial anus at this point through which all of the bowel contents were discharged and the colon irrigated. The result was a prompt cure of the condition.

In this case a right-sided temporary colostomy was the only procedure which would give physiologic rest to the entire affected colon and allow the indicated irrigations to be carried out.

The reports of these cases which are selected from a large series, are offered to illustrate several classes of cases presenting hyperperistaltic activity as their principal symptom in common, the etiologic source of which can only be found on painstaking examination of the abdomen and lower bowel by means of the proctoscope, sigmoidoscope, radiograph and the microscope. The curative measures for the conditions thus discovered are purely surgical and the happy results in cases presented in the above classes simply justify the operative measures advocated and employed.

604 Washington Arcade.

VALUE OF CHLOROFORM AND MORPHIN

I am of the opinion that the liberal use of morphin, chloral hydrate, bromids, chloroform and ether will preclude the need of forceps in 95 per cent. of all cases. There are other preparations, mostly of the nostrum variety, which are at times used with some degree of success, but I am not yet prepared to replace our old friends chloroform and morphin with agents, the use of which has caused more harm than their advocates are willing to admit.—S. J. Goodman, *Ohio State Med. Jour.*

EARLY OPERATION FOR CLEFT PALATE

The proper time to operate for cleft palate is as soon after birth as possible. Nothing is gained by delay except the consequences of faulty nutrition. The plasticity of the newborn tissues, their capacity for repair, the trifling hemorrhage, the slight risk to life, the possibility of obtaining a broad, well-vascularized flap before the teeth have begun to encroach upon the mucous membrane combine to make early infancy an opportune time for repairing this defect.—W. F. Campbell, *American Medicine.*

MICHIGAN'S MIDWIFE PROBLEM*

WALTER E. WELZ, M.D.
Detroit

In the lower forms of life reproduction is the great aim of any species. In the simplest forms the production of offspring marks the end of parental life. As we ascend the scale of animal evolution we note that maternal care is needed to provide for the descendant, which requires more time to develop to a state where it can provide for itself. The death of the mother means a calamity for the offspring, possibly its death also. When we reach man, the climax of animal evolution, we find that the female must pass through parturition in safety in order to care for her children and lead them to be serviceable members of society.

With ideal care this highest type of female should pass through gestation and confinement unimpaired, and should remain a healthy member of society. That this is not an accomplished fact is an indictment against our civilization. It would take a much longer paper than this to attempt to enumerate the needless sacrifices and sufferings of the mother because of child-bearing in our day. I will only attempt to show one phase of the problem — the midwife.

With the advance of civilization the practice of obstetrics has not been neglected. One may read of the improvements made by the Chamberlains, Tarnier, Semmelweis and others; how the knowledge of asepsis has almost stopped puerperal sepsis; the relief that anesthesia and surgery have extended to delivery. At present a well-cared-for pregnant woman has an infinitely better chance for a healthy useful life and a healthy child than had her progenitress of a few decades ago. Why then the mortality, the subsequent ailments of those who have survived, the great infant mortality at birth, and the even greater morbidity shortly after birth? One is forced to believe that these can only come from improper care during gestation, parturition and the puerperium. I do not wish to be understood that the blame for this lays entirely at the door of the midwife. I do believe that she is a factor in continuing this undesirable condition of affairs, and therefore should be eliminated from the practice of obstetrics.

The practice of midwifery is about as old as civilization, and antedates the practice of medicine by centuries. That the mother of Socrates was a midwife indicates that they were in high repute at that early date. In Europe the midwife developed as the accoucheuse for all classes, while a few physicians developed as consultants in obstetrics, and these were only called to aid the helpless midwife in unusual cases. I need only mention the fact that Maria Louise was confined at the birth of the Duke of Reichstadt in 1811 by Madame La Chapelle, and Queen Victoria was successfully escorted into the world in 1819 by an imported German midwife, to show how recently the midwife has held a place of importance and honor. Even to-day she holds sway over the masses of Europe and in most cases a physician is called only as a last resort.

In this country we have not had occasion for the development of the midwife;

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

the American of American parents is wont to call a physician for confinements. With the immigrant came the accoucheuse, so we have had this class grafted on our society. With characteristic American forebearance we have ignored her presence and practice until we have found her to be a menace to public health and welfare. If we are to improve maternal and infant well-being we must face midwifery as an art which has outlived its usefulness and therefore is to be discarded.

With the intention of getting data on the subject of the midwife practicing in Michigan I had a circular letter printed and sent to the State Board of Health and to the health authorities of the larger cities of the state. The following list of questions were asked:

1. Is the practice of midwives in your city regulated? If so will you please send me a copy of the law?
2. How many midwives are practicing in your city?
3. How many births are reported annually by midwives?
4. What per cent. of total births reported does this represent?
5. How many midwives have had special training in schools for midwives?
6. What are the usual fees received by midwives in your city?
7. Does the midwife make a practice of giving gynecological treatment?
8. Are there any suggestions you could make for regulation of midwives from your knowledge of local conditions?

The result was far from satisfactory as I received information from only six cities. The appended table gives the net result of the answers received:

	1	2	3	4	5	6	7	8
				%				
Bay City.....	Yes	7	72	6	0	$3-5	No	Yes
Calumet.....	No	17	143	19½	1	$5*	Yes	Yes
Detroit.....	No	112	...	18	...	$3-10	Yes	Yes
Grand Rapids...	No	?	346	12	?	.....	No	Yes
Hancock.....	No	13	115	33	...	.....	No	Yes
Menominee... ..	No	5	75	33	0	$5-8	Yes	Yes

* Per week.

The secretary of state of Michigan wrote:

"According to the regulations of the Michigan State Board of Registration in Medicine midwives are not recognized under the medical act, and have no professional or legal status in this state, but, according to the birth registration law, midwives are permitted to certify to births."

So we see that our solons have created a paradox in which the midwife is not recognized, but must report the results of her ignored labor.

Not satisfied with the results of these efforts I wrote to several physicians, asking for local information on the subject. From what information I have been able to glean from the paucity of data obtainable, I find that there are no local laws to regulate the practice of midwifery except in Calumet where a large Finnish population requires seventeen midwives imported from Finland to deliver 143 women annually. While the number practicing in the state does not seem large, there are more in actual practice than we think as they prevail wherever the foreign population is great. Their fees are smaller than any physician could do the same work for. They usually do the work performed among the higher classes by both physician and nurse. There is a tendency to practice gynecology especially among the foreign born who are attracted by the meagre fee and the knowledge of the mother tongue used by the midwife. Some of the fees are ridiculously small for a period of attendance after confinement. The consensus of opinion among all physicians and sociologists is that immediate regulation is desirable.

In Detroit there is an effort being made by the Board of Health to regulate the practice of midwifery and to eliminate the very unfit. They prevail among the foreign born especially the Poles, Huns, Austrians,

Bohemians and Russians. The fees are very modest varying from three to five dollars a case. This includes delivery and care of woman and child in a daily visit for ten days. Recently there has been a tendency on the part of those less busy to reduce their fees to three dollars, and there is a demand by the midwives themselves for regulations of fees by the Board of Health. A nurse is sent to the house of the midwife to inspect her environment, bag, etc., and examine her qualifications. A record is kept of 112 who are on the credited list of the Board of Health. No law exists to regulate them, but the efforts made by the Board of Health are meritorious and are a foundation for better regulation. Here we find all grades from the well-trained clean midwife, educated in a good school, to the slovenly, filthy, untrained, ignorant woman who gains her livelihood among the extremely poor foreign born. There are others not on the Board of Health list who nevertheless practice.

In certain country districts where there are numbers of foreign born, the midwife has been grafted on the district through the advent of the settlement. Most of these are unqualified and only the ignorance of the people permits their survival. The fees are extremely low (even to $2 for the care of patient and babe for seven or ten days) but the office is prized as this woman is purveyor of local gossip. This type can hardly be classed as midwife as she is quite unqualified, and necessary regulation could dispose of her at once.

So in surveying the so-called midwife in this state we find the most varying grades of efficiency. The better prepared type found in small numbers in the larger cities is perhaps as efficient as the average physician in normal confinement. This type is uncommon and makes up but a small percentage of the entire number. The rest vary greatly in education, cleanliness, efficiency and conscientiousness. It would be impossible to properly grade them as to qualifications for their work. Perhaps we might group them broadly into two clases: (1) Those fit for regulation; (2) those unfit. The former would include those having had proper preliminary education, a certificate from a recognized school of midwifery, and possessing habits of cleanliness, respect for law, a conscientious regard for the proper technic of delivery and care of the patient post partum.

Has the midwife outgrown her usefulness? She is becoming so as the foreign born attain wealth, culture and education. We meet her here as an institution brought with the emigrant. In the past she has been of service where there was a lack of trained accoucheurs. She served her purpose then as she cared for the poor who would otherwise have suffered neglect. The lack of regulation here tends to make her inferior to her well-trained foreign sister who is under governmental supervision. Increased wealth, education and culture of the foreign born have created a demand for better care of the mother during confinement. So the physician gradually supplants the midwife among the foreign born who have been here longest. With Americanization the midwife is discarded. Among the very poor she is retained because of the amount of service given for a small fee. Were there to be a general uplift of all the lower clases, especially the foreign born, the midwife would disappear, and properly trained physicians and nurses would replace her.

As this visionary condition is not apt to occur, we ask what is to be done to eliminate the worst type, regulate the better type, and finally to supercede her as soon as possible? I take the position that, as the best midwife is not as well trained as a good physician, she has no moral right to

remain as one of our civilized institutions. She must not continue because of the inability of the poor to pay for suitable service during parturition; if necessary, the state must provide suitable service as an insurance for living, healthy mothers and living healthy children. Bad obstetrics means unhealthy women, unnecessarily high mortality rate among the recently confined as well as among the new-born, high rate of mortality of infants, and a greater number of chronic ailments in youth and adult life resulting from a bad start in life. Pediatricians agree that many of the faulty habits of infancy are begun almost at birth: the result is a high mortality and morbidity rate among the very young. Just how many of the chronic disorders of adult life result from these early faults are unknown, but it is certain that many disorders may be traced to disease of early youth which might have been prevented. How often are obstetrical cases mismanaged, skilled assistance called too late, improperly cared for, or neglected during puerperium, and resulting disorders entirely neglected. Women attended by midwives suffer from more and greater lacerations than they would have, if properly attended. Usually these lacerations are not repaired at once and consequently the women must suffer a curative operation which could have been avoided. Puerperal sepsis is censurably common, and the survivors do not enjoy health because of resulting pelvic disorders. Emergencies of the lying-in room are not handled with proper skill, consequently the disasters of dystocia in the path of the incompetent accoucheuse. Among the newborn ophthalmia neonatorum, septic melena and icterus from an infected cord, later the innumerable intestinal disorders resulting from bad advice or lack of good advice on infant feeding or care, are all chargeable to inefficient care of the attending midwife. Should woman be subjected to enfeebleness which circumscribes her usefulness, lessens her ability to care for her family, and takes from her, her birthright of good health and happiness?

From a humanitarian view each woman deserves proper treatment during this trying period. It may be that this was impossible in the past because of a lack of properly trained accoucheurs. If so, the midwife has justified her calling for that period. Now with a sufficiently large number of properly trained physicians the need for her services has passed.

If the midwife is not as capable as a well-trained physician, then her services are costly to the state even if cheap to the individual. Healthy people have a certain definite value to the community: sickly people are a definite burden. Perhaps some day a genius at figures may be able to tell us in dollars and cents how much is lost to the state by the practice of bad obstetrics. Then our cupidity will direct us to improve our course as humane reasons have failed to do. Is it not a senseless burden to the state to have mothers sickly, and offspring weakened? Should the midwife be permitted to continue when the practice of her calling means a loss to the state as well as misfortune to the individual?

It would be folly to advocate immediate disbarment of the midwife from practice. The present need is for education to better obstetrics, and regulation that will compel the unfit to discontinue the practice of midwifery. If we strive for the ideal condition in which every woman will receive competent care during and immediately after confinement, we must plan to displace the midwife entirely. There must be substituted a competent attendance for those now served by her. This service must be free, or only a nominal fee charged. Various plans may be used as the needs of the

community require. If the substituted service is properly carried out, there may be no need for further regulation. The midwife will be easily supplanted by a better agent. Without proper provision for the care of the parturient, suppression of the midwife would be unjustifiable. In this state we have three sides to the question: the large city, smaller cities and rural communities. In the two large cities where large foreign populations exist, the greatest number of midwives are found practicing among the foreign born. Here the midwife may be displaced by an increased number of city physicians, by maternity clinics, by increasing hospital facilities and by more work on the part of the general practitioner. An ideal system is that of a maternity dispensary which may be supported by the municipality or by charity. A staff of physicians and nurses, specially trained for this work, live at the dispensary and devote all their time to this work. All cases are investigated and examined before labor. Any poor person may find immediate care through this institution. Normal cases are confined at home; abnormal cases or those in filthy homes are sent to maternity hospitals. This plan is feasible and appears to solve the problem in any large city. As a corrolary to its work a sufficient number of maternity beds in suitable hospitals is required.

In the smaller cities the problem may be worked out by the local medical society. Perhaps the best plan is to have a system whereby a certain number of beds in the local hospital may be held for maternity use, and the outdoor work done by young physicians whose practice is not extensive. This would give needed practice to the younger men and better service to the woman than a midwife would. An experienced obstetrician should be in charge of the work and be prepared to care for emergency calls in abnormal cases. A number of trained nurses may also be provided so as to give each case proper care at least during confinement.

Rural communities may apportion cases among young physicians, or grant each physician a small fee for every confinement of women who are unable to pay. When possible, cases should be sent to the nearest maternity hospital for confinement shortly before term. As there are few midwives practicing in rural communities, there should be little difficulty in supplanting them there.

It is the consensus of opinion of those who are informed that immediate legislation is needed. Detroit and Grant Rapids should have local laws giving the local Board of Health power to supervise, examine, license, disbar and regulate midwives practicing there. There should be a state law enacted, giving the State Board of Medical Registration power to regulate all midwives practicing in the state. This would obviate the necessity of creating a new board and the work could be well cared for in conjunction with present duties of the board.

I believe that these laws are needed to control the situation until the midwife is made a superfluity through education of the masses to good obstetrics and by providing good obstetricians and nurses to care for all poor. It will require conscientious effort by physicians and altruists in every country to let every person know the benefits of good obstetrics and the possible harm of faulty accouchement to interest the masses to make the change. It is also necessary for each physician to do his best in a conscientious effort to raise the standard of obstetrics to a higher plane that it may be accorded greater respect than it receives at present. Every mismanaged case lessens the confidence of the public in our ability to do creditable work and gives an excuse for the practice of mid-

wives and healers. The more nearly perfect our work the more willing will the masses be to place themselves in our care at this trying period.

As a matter of economics it would pay the state to provide suitable accommodations for those unable to pay for them. Dead babies, sickly infants and even weakly adults, the result of a bad start in life, dead mothers and sickly women are a detriment to the community and a loss to the state. Healthy mothers and children are an asset to the state. Would it not be cheaper to provide a prophylactic in the way of careful accouchement than to pay for hospital care and institutions for those improperly cared for at confinement?

The midwife remains a relic of past ages of ignorance. The need of her labors has passed with the advent of modern obstetrics and sufficient capable accoucheurs. The alchemist, witchcraft, slavery have been dicarded by the enlightenment of the masses. From the past ages midwifery alone remains a blot on our civilization. It remains because of the indifference of the more enlightened of us and the poverty of the unfortunate. We cannot neglect her who needs the best care during her most trying time. We must not permit the helpless babe to be blighted by ignorant care when competent assistance is available. On us as physicians rests most of the responsibility for the enlightenment of the masses, and provision for the proper care of all women who are pregnant.

REFERENCES

Emmons and Huntington: Am. Jour. Obst., lxv, 393.
Hubbell, George: Conference of Charities and Connections, 1909, p. 91.
Baker, S. Josephine: Am. Jour. Obst., lxv, 256.
Gregory, Alice: Nineteenth Century, No. 67, p. 725.

GYNECOLOGICAL HINTS

Before making a physical examination of the patient the outer clothing and corset should be removed while she is in a sitting posture on the table. The heart and lungs should be first examined. She should lie on her back with the knees flexed on the abdomen. All bands should be loosened and the abdomen thoroughly examined. This thorough examination of the chest and abdomen will in many instances determine whether or not an operation should be performed on the genital organs.

A highly padded table covered with a clean sheet is much better than an examining chair, and infinitely better than a bed for purposes of examination.

For an ordinary examination very few instruments are required. A medium-sized bivalve speculum, a small and medium-sized Sims' speculum, a Sims' depressor, and long dressing forceps are the instruments most frequently used. For a thorough exploration of the urethra, interior of the bladder and uterus, special instruments are required and only the expert will learn anything from their use.

It is very important to differentiate between a caruncle and a protrusion, or, more strictly speaking, a prolapse of the urethral mucosa from the meatus urinarius. In the former condition thorough anesthesia of the affected part with a 2 per cent. solution of cocain and the application of a fine ligature will bring about a cure. On the other hand, if this method of treatment were resorted to in a case of prolapse, the condition would be rendered worse. Delicate plastic surgery with the patient under general narcosis is necessary for its cure.

Vulvitis and vaginity are almost invariably associated, and if the former is cured the latter will usually disappear.

In a few instances vulvitis is due to parasites, or other external irritants, and when the cause is removed the disease will vanish.—Waldo, *International Journal of Surgery.*

ANESTHETIZING CHILDREN

Never begin the anesthetic until the surgeon is ready to operate. This is a thing that I wish to impress not only on anesthetists, but on the general operator. I have seen many patients who have been kept under anesthesia anywhere from five to thirty minutes before the operator was ready to begin.—Kilmer, *Arch. Pediat.*

SYMPOSIUM ON FEE-SPLITTING*

Ethics—Its Application to "Fee-Splitting" and "Commission Business"

THEODORE A. MCGRAW, DETROIT

In the discussion of the ethical questions, involved in the practice of dividing fees between the family physician and the surgeon, we have to take into consideration the peculiar relations which exist between the medical man and his patients. More than in any other business or profession, they are those of trust. The physician is admitted into the inmost family circle. He sees its members in health and sickness, becomes acquainted with all of the family weaknesses, and is often their most intimate friend. He is frequently consulted on questions not pertaining to his profession and is called on to advise people who are too weak and ill to judge rationally of their own affairs. When a surgical operation becomes necessary, it is he who chooses the surgeon and with whom the family consults about the surgeon's fee. They would not do this if they did not feel implicit confidence in his friendship and in his absolute honesty.

It has always been held by all people, and it is a legal axiom, that any business, conducted as a trust, demands much more scrupulous fidelity and honesty than other transactions. On the other hand, the physician has to conduct his business on business principles in order to earn the means to support himself and family. He is entitled to full pay for services rendered, although he may choose, in certain cases, to relinquish this right, and he should not be held open to criticism for asserting this right, provided that it is done openly and without any kind of deception.

Every man, who pays a bill, whether for goods or for services, has the right to know exactly what he is paying for, and it is that duty of the medical practitioner to so conduct his business relations with his patients, as to warrant their full exposure, in all their details, whenever it might be demanded. When choosing a surgeon for an operation, honesty requires that he make his choice with sole regard to his patient's interests and that he should never accept a bribe, which could possibly influence his action and make him fail in this evident duty. It demands, too, that in arranging with the surgeon for the fee that he should protect the family from exorbitant charges. His own payment for his visit to the hospital, and his presence in the operating room, should be obtained honestly and frankly from his patient and not secretly from the surgeon. It is because the custom of dividing fees leads in these respects to dishonest practices that it is repugnant to every high-minded physician.

The physician, who is given to these methods, selects the surgeon, who will give him the largest percentage of his fee and practically sells his patient to the highest bidder. The surgeon with the connivance of the family doctor enlarges his fee, to meet the doctor's demand. The physician tells his patient that the great expense is incurred to meet the surgeon's charge. The truth is that he, in the surgeon's charge, conceals a fee for himself, of which he is ashamed or afraid to make his patient aware. The truth may be, in certain cases, that the surgeon and the physician have conspired together to get from the patient all that he can stand, for when once such relations have been established, they will surely develop into systems of extortion. The family physician will hunt after these profitable cases and useless and unnecessary operations will become common. There are, doubtless, many medical men who have entered into such relations, without full consideration of their meaning. I would call the attention of such physicians to the fact that money so gained is acquired under false pretenses. If the transaction could be brought into court, no judge could pronounce them other than fraudulent. No honest man can afford to put himself in such a position, nor can the medical profession afford to condone such practices by its silence. If they are tolerated, the great mass of surgery will fall into the hands of the most unscrupulous and heartless members of the profession, and medical practitioners, forgetful of their relations of trust, will descend to the meanest and most degrading commercialism.

* Report of a committee, read at the October 7 meeting of the Wayne County Medical Society.

The Honorable Position for the Family Physician to Assume—Can He Be Expected in Justice to Those Under His Care and His Own Self-Respect to Assume Any Other?

Charles G. Jennings, Detroit

Bonaparte in naming a bequest to his great Surgeon-General referred to Larray as "the most virtuous man he had ever known." The biographies of the noted physicians of history are full of evidence that they were men who possessed virtue and honesty above the conventional requirements of their day. Benassis, the country doctor of Balzac, stands out as an example of the rugged honesty and self-sacrificing devotion to the highest interests of his patients that characterizes the family doctor of fiction. From our own experience and observation we know that the character given to the physicians of history and fiction is paralleled both in country and city in the hard working, upright, family physician of to-day.

A spirit of sturdy honesty has animated the rank and file of the medical profession and that it has been recognized and appreciated is shown by the confidence and trust that have been given to him.

With the highly specialized development of modern medicine and surgery have come new problems of practice that require new adjustments of professional relations and remuneration. Frequent consultations and the reference of his patients to physicians of special skill, have given the family physician a new and delicate responsibility. It has become his duty to study the qualifications of medical and surgical experts available for consultation that he may best advise those who trust to him their health and lives. He must know when, and to whom he should go to give his patients the best medical and surgical advice and skill.

As in his own care of the patient, so in this selection of a consultant there must be but one basis for his action—the highest welfare of his patient.

As the family physician has been trusted in his direct dealing with his patients, so he should be trusted in his new relation, and he should here be as honest as he has been in the old relation. But how long will he be entitled to this trust, and how long will he retain the confidence and respect of the community when he forgets his responsibility as trusted counsellor and sells his consultations, operations and special cases to the highest bidder? How long can he retain his own self-respect and accept clandestine remuneration from a consultant for services for which he presumably has been paid?

We are all familiar with the various phases of the one argument that has been put forward to justify the surreptitious division of fees. One of them is: The local attendant has had the care and responsibility of a case that ultimately comes to an operation. On him has fallen much work and responsibility. He has made the diagnosis and has advised the proper treatment. The surgeon is called, operates and returns to his home in a few hours with a fee, perhaps in excess of that which the family physician hopes to obtain for weeks of work and responsibility. Other phases of the argument might be cited, but they all have the same foundation, namely, the inadequate compensation received by the family attendant, as compared with that of the consulting physician or operating surgeon when in joint attendance on a case.

Undoubtedly the attending physician is often too poorly paid. In my own relations, as attending physician, I have experienced this injustice. The remedy, however, is not for the attending physician to try to take from the surgeon or consultant a part of his fee, or to make him a clandestine collecting agency, but to render a proper account for the knowledge and skill he has given and for the responsibility he has assumed. From my own experience, I should say that the fault is often with the family physician, in that he does not put a proper valuation upon his services when he attends a patient in association with a consultant. But wherever the fault lies, no condition can justify the secret collection of his fee from the consultant. It is true that often no actual injustice is done to any one concerned, but the fact that the transaction is hidden condemns it. The abuses that may come from it are actually appalling.

The whole question of the division of fees is one of honesty. The physician who clandestinely divides a fee with a consultant deceives his patient for gain, and violates that trust that should be to him one of the most gratifying rewards that come from his professional labor.

Therefore, in justice to those under his care, and to maintain his own self-respect, the family physician can take no other position than one of uncompromising opposition to the secret division of the consultant's or operator's fee.

Why Is the Surgeon Importuned by the Family Physician to Charge a Fee, Which Is to be Divided Between the Two—The Transaction Being Unknown to the Patient or His Friends?

Walter P. Manton, Detroit

One of the seemingly inevitable results of the increasing struggle for existence is the dulling of the individual conscience and a loss of moral perspective. Men become callous to the ethical sense and, in their striving for material success, willingly or unconsciously, drift or are led into practices detrimental to character and honesty. As society is made up of the good, the doubtful and the bad, it is not to be supposed that members of the medical profession differ from the general run or are immune from the laws which govern all. The practice of medicine is, at best, no sinecure; sloughs of despond are more often met with than delectable mountains, and few attain to the heights of financial security, with shoulders freed from the burden of uncertainty and care. Increased cost of living is progressive, and the financial demands upon the physician enlarge in ratio to his family growth and the class of patients among whom he practices. Unfortunately his fees are not augmented in like proportion; competition is active; there is an oversupply of doctors, and the monetary returns are not adequate. The medical profession as a whole is and always has been underpaid for services rendered.

No wonder, then, that in the running some fall by the wayside and wander deviously. If the harm done by these could be limited to themselves, while their condition might be deplored, it would not be as bad, for they could be easily dealt with and eliminated, but in a solidarity like the medical profession, the follies of one may be laid at the door of all, and individual disgrace and dishonor reflected upon the whole profession, just and unjust suffering alike.

The matter of fee-splitting is purely one of ethics and morals. Why offenses are committed against one's self and society is a problem not easy of solution, and the answer to the question, why the family physician importunes the surgeon for a secret division of the fee received by the latter, is beset by many difficulties. If the reasons advanced for this practice are analyzed, however, it will probably be found that, in essence, the matter can be resolved into three distinct motives, cowardice, avarice and graft, each one of which enters to a greater or less degree into every transaction of this kind.

Numberless ingenious and specious arguments and excuses are offered by the perpetrators of this discreditable business in extenuation of the act. Some excuse themselves on the plea that in no other way can they establish a practice; others say that the money received is their own, and they can do with it as they like; some pretend to believe that they are justified in exacting payment for cases referred to the specialist, on the ground that they have put him in the way of obtaining a fee, which he otherwise would not have received; some, failing of remuneration for services rendered the patient, seek to make the consultant a collecting agency for their default; while others desire only to add to their income, whether they believe themselves entitled to such consideration or not. Again, as one cannot be tempted where there is no temptation, the error into which some have fallen, appears to be not of their own initiative, but due to the wiles and allurements held out by others to which they succumb.

When a man desires to shortcut the years of honorable practice building and by a single bound to leap over the heads of others whose patient work and struggles have advanced them in professional achievement and success; when one starts out with the ignoble ambition, by fair means or foul, to do the largest practice, or accumulate more cases than can be shown by his fellow practitioner, it is easy to resort to doubtful methods, and one way in which to accomplish his design is to buy his patients; and the itching palm always knows where the feel of the money is largest, and from whom the rake-off can be most readily obtained. For a man of this kind, although hiding his light under a bushel, sees to it that there are cracks enough left open to illumine the way of the covetous. Why is the division of the fee made in secret, unless the act in itself is wrong and thus acknowledged by the participant?

To salve one's conscience by the excuse that such dealings are only temporary, to be discontinued with the object attained, is self-deceptive and profitless; one may reform and experience a change in viewpoint, but he has sown the seed of demoralization, debauched the recipient, and created the desire.

I know of a man, now dead, who was accustomed to receive a commission from a certain surgeon, and I am told that, before he involun-

tarily resigned this life, he remarked that he never came in contact with the last patient so deceived but he trembled in his shoes lest his perfidy be found out.

How can the incentives which incline a man like this, otherwise honorable and just, to stoop to deception for petty gain and prostitute the confidence of his client for dollars and cents, be determined? Are the excuses which I have mentioned, adequate for the selling of one's birthright in dishonor to his manhood and disloyalty to his profession? I think not—for a good name is rather to be chosen than great riches.

The Effect of the Fee-Splitting Upon the Family Physician, Especially in Small Towns, When It Shall Become Known That the Custom Prevails.

Harold Wilson, Detroit

In the literal discussion of the particular topic which has been assigned to me in this symposium, it would be difficult to avoid the utterance of obvious platitudes, a calamity I shrink from. Then, too, a series of platitudes, might constitute a sermon, and a sermon is ordinarily less likely to give its hearers a great moral uplift than it is to put them to sleep. Now, although you may need the sleep more than you do the moral uplift, I shall, nevertheless, endeavor on this occasion to preach no sermon; and further, though I may wander from my topic and must apologize to our chairman, for such an unreasonable divagation, I shall be brief. Moreover, sermons enough have been preached upon this matter of dividing fees.

As interesting as such speculations may be, I shall leave it to your constructive imagination to picture the precise effect which the custom of fee-splitting may have upon the family physician, for I have a certain timidity in attempting to describe the moral states of other people. It is quite difficult enough to make a just estimate of my own. I might tell you how somebody else, with unholy secret money in his pocket, ought to feel, and how his character ought to deteriorate. You can guess this quite as well as I, but the man himself could do it still better, if he could be brought to do it. On the other hand, he could show, perhaps, how much we have erred in considering the division of fees a wrongful act.

Here in this little gathering of ours, there may be family physicians who have shared in this secret partition of money which we call "fee-splitting," and there may be also opulent specialists who have paid their little bonus for business. I cannot say; but we have been informed that this practice is the common habit of many men in many places.

If the division of fees is something good and wise, a legitimate commercial transaction, even though it may not accord with our loftiest ideals, its effect upon these who practice it must be good. If it is a proper and honorable thing to do, those who do it will not hesitate to acknowledge the fact, at least I can see no reason why they should hesitate. In fact, I cannot but believe that if there are any in this audience who dissent from the expressed and understood opinion of this committee and I may say of the profession at large, adverse to the practice, I cannot but believe that this is the golden moment for them to present their views. If, however, there is no voice raised in protest or rebuttal, no one who is willing to confess, or to defend his participation in the divided fee; no one in short to act as the devil's advocate, then it seems still more unnecessary to follow the ramifications of an ethical analysis of the matter. It is our business, when we have once settled the fact that the division of fees is morally wrong—and I should think there had been enough reams of paper written and printed on to demonstrate this simple truth —it is our business, not so much to analyse and philosophize as to make some effective move toward stopping a practice that has so many friends and so few defenders. Not that there is any novelty in this suggestion, but in the abatement of any evil, it is always better to do something than to content ourselves with talking.

It must not be understood that there is anything wrong in the literal division of a patient's fee. If several physicians act jointly in the care of a patient, it is obviously right that the money which he pays should be divided equally among these physicians. The added element of secrecy is what spoils the moral quality of the act. The practice of medicine introduces into life no special or particular ethical principles. The physician's obligations to his patients or to his colleagues are the common obligations to humanity.

I am quite convinced that the moral status of this whole matter is well enough understood

by the medical profession, not only because it has been more than abundantly discussed, but also because a little introspection would in any case, readily decide it for each of us; yet, at this moment, it is less a matter of individual conduct than of concerted action. We figure here as parts of an organic whole, the medical profession, in which you and I are simply specialized units, and in this place, at least, it is our duty to act for the general welfare. There has been, and still is, more or less open and covert criticism directed against the medical profession for the practice of dividing fees. Public opinion has settled quite definitely that the result of this practice is to lower the dignity and character of those who embrace it. The hidden character of the act makes the knowledge of it in the public mind, and even among ourselves, fragmentary circumstantial and indirect. It is a matter of street gossip rather than of personal knowledge. How much does any one of us know as to the extent to which his colleagues split fees? As a matter of fact, little or nothing. How impossible then to apply a penalty for its indulgence. Personally, I do not believe the evil can be corrected in any such fashion, although the suggestion has been made for example, to secure the withdrawal of hospital privileges from men who divide fees; yet it is most desirable, as I have already said, to do something to stop the practice if it exists, and to allay that suspicion in the popular mind, which regards us all as possible participators in the custom.

From the standpoint of the family physician there is this to be said: He has seen too often and with too much bitterness the surgeon or other specialist, to whom he has referred a patient, take from that patient so much money, that he himself was never able to collect a penny for his own arduous and often self-sacrificing labor. This is the beginning of the wrong which culminates in the secret division of fees. No remedy that either directly or indirectly ignores and fails to reach in some way this manifest injustice will be either adequate or successful.

The effect of the division of fees upon the family physician, whether in town or country, is primarily, at least, to give him a sure monetary return for his services. The practice originated for this purpose, but it is a clumsy device to attempt to remedy one evil by another. The unscrupulous surgeon divides the fee, not as a means of justice, to the family physician, but for the purpose of securing business and diverting money into his own pocket. The scrupulous surgeon may do it for other reasons, but he, at least, will welcome any better means of doing justice to the hard working and poorly paid family physician.

Once again I wish to emphasize the need for action, and I trust that before this meeting shall have adjourned we may have made some earnest and wise move toward the elevation and conservation of those professional ideals which after all are what make the practice of medicine worth while.

At the proper time I shall move that the secretary of this society shall be authorized and directed to submit the following statement to each member of the society for his signature:

We, the undersigned, members of the Wayne County Medical Society, believing that the secret division of fees among physicians is inconsistent with the highest and best ideals of the medical profession, hereby declare that we neither approve nor engage in such practice.

Fee Splitting from the Surgeon's Standpoint. Presentation of Resolutions, Endorsing the Principles of Medical Ethics of the A. M. A. and Making Membership in the Wayne County Medical Society and the Practice of Dividing Fees, Directly or Indirectly, Incompatible.

Frederick W. Robbins, Detroit

We belong to a profession whose glory has been sung down the ages and whose numbers hold ideals higher than those prevailing in the strictly commercial world. Before this body it is scarcely necessary to present arguments in favor of the resolutions to be presented.

Until within a few years the question of secret division of fees was never the subject of discussion and later has been spoken of only to be condemned and those engaged in its practice have been very careful that their acts should not be generally known. In the East, usually conservative, little has been heard of this method of building up a large surgical practice on the one hand, or of a conspiracy to enrich the physician at the expense of both the surgeon and the patient on the other. Nevertheless in states like New York and Connecticut strong action has been taken in state and coun-

ty societies to stop the growing evil. In the South and West there appear to be many sections affected by this corroding disease.

Fees may be divided as a direct bid for surgical work. The physician may make a demand for part of the remuneration coming to the surgeon. In the latter case, the physician is a grafter; in the former, the surgeon is a conspirator—no one attempts to defend them. They are ashamed of themselves. Commercialism in professional life is demoralizing. It places the desire for money above those finer possessions that come to the honest practitioners of medicine.

The Principles of Ethics is not a dead letter. It is not a collection of phrases, intended to flash upon those not of us—a "holier than thou" sentiment. It is intended as a presentation of principles that can and should be lived up to. We have subscribed to them, and by living and working in accord with them, the practice of medicine becomes a pleasure and the associations with our fellow-workers a joy.

When one builds up his practice by the secret division of fee-play he becomes not only a selfish competitor but a parasite. If he does this openly, he shows his hand and receives the fellowship of those with whom he wishes to associate and frankly lets the profession and the people know that he is engaged in business for "what there is in it." For him, I have much respect, but if he plays the ethical to one class and the commercial to another, he is not honest with his brethren at least. Such a competition, not based upon ability, experience or training, is unfair.

Some one may say: He will do as he likes with his money; if he gives half or the whole of a surgical fee to any physician, on any or no pretext, it is nobody's business.

Such an argument or statement may seem, at first, conclusive, but is it? It is not always true that a man may do as he likes with his own.

Let no one be dishonest with himself by endorsing the Principles of Ethics, and then scheme to accomplish the same thing by indirection. The chief point is that the patient, physician and surgeon know what services are being paid for and how much is being paid. Certainly, the physician who brings a patient to a surgeon, if honest, will if a joint bill is to be rendered, be only too glad to have his own services properly recognized. The physician should be paid just as liberally as the surgeon. In fact, it is quite possible that in a given case the scientific work, done before the patient comes to the operating table, is worth as much, or more, than the work of the operator. For instance, a physician, who studies a patient with a tubercular kidney, decides upon an operation and calls in a surgeon for the operation, is entitled to as much as the surgeon. If, however, the physician can only guess at the possible condition and refers to the surgeon not only for the operative but the diagnostic work, the surgeon is entitled to much the larger fee.

In all this I would insist that the physician is not only entitled to good fees for services, but is entitled to the respect of the public, which he can only gain by a demand for proper remuneration for scientific service.

It is not necessary to further lay before you the evils inherent in fee-dividing or commission-paying. Even from those angles, whence the justification seems at first most plausible, a little thought will demonstrate the custom an error.

Your committee, being convinced of these facts, begs leave to submit the following resolution:

Whereas, The custom of secret division of fees among physicians and surgeons has become a subject for discussion and condemnation in the medical and public press of the country; and

Whereas, Such practice is distinctly dishonest and unworthy of the high ideals of the medical profession; and

Whereas, It fastens the spirit of graft, and if continued will inevitably destroy that respect which the public has always held for us as a profession; therefore, be it

Resolved, That the Wayne County Medical Society hereby endorses Article VI, Section 4, of the Principles of Ethics of the American Medical Association, which reads: "It is derogatory to professional character for physicians to pay or offer to pay commissions to any person whatsoever, who may recommend to them patients requiring general or special treatment or surgical operations. It is equally derogatory to professional character for physicians to solicit or to receive such commissions."

Resolved, That giving or receiving commissions, directly or indirectly, not in harmony with Article VI, Section 4, of the Principles of Ethics, is incompatible with membership in the Wayne County Medical Society.

Resolved, That complaint against any member of the Wayne County Medical Society for violating

the letter or spirit of Article VI, Section 4, of the Principles of Ethics shall receive the judicial attention of the board of directors, who shall, in case the member complained against, be found guilty, request, and if need be compel, his resignation.

THEODORE A. MCGRAW.
WALTER P. MANTON.
HAROLD WILSON.
CHARLES G. JENNINGS.
FREDK. W. ROBBINS.

DISCUSSION

Dr. J. H. Carstens opened the discussion which was interesting throughout. Among those who participated were: Dr. Le Seure, Dr. J. W. Vaughan, Dr. L. J. Hirschman, Dr. H. W. Longyear, Dr. Hislop, Dr. H. L. Simpson, Dr. Angus McLean, Dr. Don M. Campbell.

FEE-SPLITTING NOT TO BE TOLERATED

Since physicians are human beings, it is too much to expect that all members of the profession will measure up to the full standard of the established ethics, but it is pretty generally conceded that as a class doctors of medicine are persons of unusually high ideals and unselfish lives. On the whole there ought to be an increase rather than a diminution of the public confidence as a result of the announcement that the Wayne County Medical Society is about to make a campaign against a so-called fee-splitting system now in vogue to a limited extent and that a resolution is to be introduced providing that guilty members be asked to resign.

That the fee-splitting system exists might never have been known but for the uncompromising disapproval of the leaders in the profession. Fee-splitting involves an agreement of doubtful ethical morality between physicians, whereby one doctor, ordinarily a general practitioner, agrees to turn over patients to another doctor, ordinarily a specialist, for a commission on the fees collected.

The system leads to all sorts of abuses and cannot be too strongly condemned. It involves the financial bleeding of patients—a practice hitherto supposed to be confined exclusively to quacks—and the transfer of patients to physicians of mediocre ability, who will enter into a shady deal, rather than to first class men who are above doubtful devices for gaining patients.

It is particularly necessary that this custom be destroyed at once and completely because in this day of specialists it very often becomes imperative that a patient be transferred from one physician to another in order that he may receive the best possible care. The general practitioner who has the interest of his patient at heart will not attempt a delicate operation on the eye, ear or throat, or the treatment of a disease requiring unusual knowledge, but will recommend some doctor who has made a study of the disorder in question. This is a condition all reputable physicians recognize and all intelligent people approve. It is a condition that must inevitably create more or less of an entente cordiale between skilled members of the profession, but so long as the entente is not muddled by financial considerations or narrowed to the dimensions of a trust, the public has no right to complain. It has nothing whatever to do with fee-splitting or quackery.

The Wayne County Medical Society is to be commended for its course in condemning fee-splitting and placing offenders under the ban. For the preservation of the fair reputation of the profession, for the protection of the public from unethical practice involving danger both to health and pocketbook, the society must go through with its campaign to an end, and so thoroughly cleanse its skirts that membership will be a guarantee of probity.—Editorial, *Detroit Free Press*, Oct. 30, 1912.

THE DANGER OF CESSPOOLS

The use of cesspools in almost any form is dangerous if the water supply comes from the soil anywhere in the vicinity, as the ground water is almost certain to be polluted. It has been believed for a long time that, by placing waste material in the ground and covering it up, it would, in time, become so thoroughly decomposed as to be harmless. Such is very far from being true. In excavating for a new building in Philadelphia quite recently, a cesspool of Colonial days was opened, and its contents were so foul as to stop the work. The same thing happened in Rome, where a cesspool was uncovered that had been closed for 3,000 years.—Piper and Smith, *N. Y. Medical Journal.*

The Journal of the Michigan State Medical Society

Published under direction of the Council.

PUBLICATION COMMITTEE:

A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
W. J. DuBOIS, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek. (Ex-Officio)

EDITOR.

WILFRID HAUGHEY, Battle Creek.

EDITORIAL COLLABORATORS:

J. V. White, Detroit, 1st District.
George R. Pray, Jackson, 2d District.
C. S. Gorsline, Battle Creek, 3d District.
C. E. Boys, Kalamazoo, 4th District.
T. De Witt Gordon, Grand Rapids, 5th District.
C. B. Burr, Flint, 6th District.
Daniel Conboy, Bad Axe, 7th District.
B. B. Rowe, Saginaw, 8th District.
Robert E. Wells, Traverse City, 9th District.
F. E. Ruggles, Bay City, 10th District.
V. A. Chapman, Muskegon, 11th District.
E. H. Webster, Sault Ste. Marie, 12th District.
C. M. Williams, Alpena, 13th District.
Reuben Peterson, Ann Arbor, 14th District.

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A.M., M.D., Editor, 24 West Main Street, Battle Creek, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

Subscription Price $2.00 per Year, in Advance.

DECEMBER

EDITORIAL

Members sued or threatened should communicate at once with the chairman of the Medico-Legal committee, SUGGESTING but not RETAINING a local attorney. Power to engage local attorneys rests entirely with our general attorneys. Complications have arisen in several cases, and considerable trouble and unnecessary expense followed, because members have not observed this rule.

THE YEAR 1912 AND OUR JOURNAL

With this issue we close Volume XI of the JOURNAL, and in closing this year's work, we would like to call attention to two or three features which may have escaped material notice.

In selecting editorial collaborators, we have endeavored to secure collaborators representative of the various parts of the state, but this year a different plan has been pursued. One collaborator has been selected from each Councilor District, and a number of editorials have appeared this year from these editorial representatives in the different districts. The plan has worked very well, and should tend to bring the members of each Councilor District more closely into relationship with the JOURNAL.

We have instituted a department, "The Truth About Medicines," which several of our members have remarked is "one of the most important things the JOURNAL ever did." But most important of all, we have cleaned up our advertising pages, so that there is not an advertisement appearing in these pages of which we may in any way feel ashamed. All firms and preparations listed in these pages are dependable. All pharmaceuticals are approved by the Council on Pharmacy and Chemistry, and are deserving of consideration by our members. Limiting our advertising pages as we do, increases the difficulty of securing advertising revenue, but if our members would read the advertising pages as carefully as they do the text pages of the JOURNAL they would many times learn something of decided advantage. By their patronage our members could materially aid in the financial welfare of the JOURNAL.

We might add, in reviewing the work of the year, that the JOURNAL has published more pages of original articles, more pages of society reports, more pages of miscellaneous items, and has used more illustrations than ever before. This year thirty-three counties out of the fifty-nine are represented in the County Society reports, as against forty-two of last year. The JOURNAL is maintained primarily for the great-

est benefit of the greatest number of our members, and in the interests of the organization. It is our desire that every county society be represented in these reports.

A DEPARTMENT OF HEALTH

In our September number, page 595, we published the health planks of the three leading parties. The Democratic party has been elected to power for the ensuing presidential term. This party is pledged in its platform to the formation of an efficient Public Health Service. It was so pledged four years ago, and in fulfilment of that pledge, Senator Owen of Oklahoma, introduced a bill to carry the pledge into effect. Senator Owen will now have to aid him a Democratic House, probably a Democratic Senate, and a Democratic President. In a Republican Senate, Senator Owen succeeded in having his bill reported, in an emasculated form, from the Committee on Public Health and Quarantine. Let us now hope that with his own political party in power, Senator Owen will reintroduce his original bill, or certain features of the original bill, granting a department with a seat in the Cabinet, rather than a mere bureau, and that he will have success in bringing this matter to an ultimate and favorable termination during the first session of the next Congress, if not the session of the present Congress, which will meet within a few days.

The chief opposition to this measure has been the National League for Medical Freedom, which apparently is lessening its efforts, probably having spent all the money those behind the movement feel justified in spending in a cause which ultimately, if not soon, must be a lost cause.

THE CONFERENCE OF STATE SOCIETY SECRETARIES

On another page we are briefly reporting a conference of the Secretaries of the State Medical Societies, held in Chicago late in October.

Not since the reorganization of the American Medical Association in 1901, and the State Medical Societies in 1902, has there been such an important meeting of executive officers of medical societies. The reorganization was an attempt to unite and strengthen the medical profession of the United States. The American Medical Association is the recognized national representative body as the state medical societies are the recognized bodies in the various states, through which this unification of the profession must be secured. Unity of action, unity of conditions are necessary to bring about the best results. It is a fact that some state societies have their fiscal year beginning at one time and some at another. Some carry member in arrears for three years before cancelling their names from the rolls; some drop them promptly on the first day of January of each year.

One or two states have not organized county medical societies, or equivalent parish or district societies. The scheme of organization is not at all in uniformity, and in order to promote uniformity, this conference was called.

The secretaries in attendance have been immeasurably benefited by this conference with the men of other states doing similar work. They have returned to their homes with renewed enthusiasm and determination to carry on the work of the medical profession with renewed vigor. Secretaries, who have attended this meeting, who have profited by the discussions there, and who have returned to their homes and carried on their work with the increased enthusiasm and improved ideals, will be

able to lend greater influence, and will bring far more valuable ideas to another such conference, if called a year or two hence. The same enthusiasm and the same value could be obtained from the conferences of our county society secretaries, and has been obtained by those who have attended these conferences the past four years.

EARLY HISTORY OF THE MICHIGAN MEDICAL SOCIETY

The first article published in the first number of the Journal of the Michigan State Medical Society, September, 1902, was the President's Address by Dr. Leartus Connor, delivered before the State Medical Society that year when the reorganization was put into effect. This address presented in brief form some of the interesting facts of the early history of medical organization in Michigan. The announcement was made at this time in a foot-note, that the unpublished records of the first medical society in Michigan, the Medical Society of the Territory of Michigan, were in the possession of Dr. C. G. Jennings, of Detroit.

We have lately persuaded Dr. Alpheus F. Jennings to edit these transactions for the Journal in order to place this early history of medicine in Michigan before our members, and in a more accessible place for use as a reference. The material contained in this volume will be presented in abstract form by Dr. Jennings in several chapters, to be published each month until complete.

We would call especial attention to the fact that the first medical society in Michigan was formed by special act of the legislative body of the territory in 1819, and that certain definite powers were given to the society. It was an incorporated body and had full authority to examine and license practitioners of medicine.

We are fortunate in obtaining this almost priceless history of early medicine in Michigan.

THE STUDY AND CONTROL OF THE SPECIALTIES

In the New York Times of Aug. 26, 1912, Dr. Neumann of Vienna is quoted to have said: "My assistants have to work. If they do not study and work they must leave. In five or six years of hard work I can turn out specialists." The specialist thus quoted touches a very sore spot. If a physician who is in a position to speak with authority and who lives in a medical center with an immense clinical material, such as is found in very few places, tells us that it takes him five or six years to impart that knowledge and skill to a physician necessary to make him a specialist we can draw several valuable conclusions from such a statement.

First. We cannot fail to notice and to emphasize that the preparation for a specialty, which is solely acquired in Vienna in a few months or even in a year, is absolutely inadequate and should be discredited by all means in our possession. Such insufficient preparation is decried by a man who is in a position, like few others, to pass judgment on such a training.

Second. If it is impossible to become a specialist in Vienna in less than five or six years, how much longer will it take in small places with little clinical material and under less able teachers?

Third. What kind of specialism is practiced in this country if the statements mentioned before are true? Neumann declares that, in his line, real specialists, in this country "might almost be counted on two hands." This statement is the more noteworthy if we remember the perpetual exodus of physicians to Vienna who intend to return as full-fledged specialists.

What applies to one specialty applies to all. It will come within the province of the committee appointed by the Michigan State Medical Society to consider as many sides of the question as possible and to suggest measures which in time will regulate the study and control of the specialists.

Emil Amberg.

IN MEMORIAM

Dr. Oliver B. Campbell, University of Michigan, 1875, a member of the Michigan State Medical Society, and for three terms President of the Clinton County Medical Society, died suddenly at his office in Ovid, October 28, of cerebral hemorrhage, aged 60.

Dr. Festus F. Pitcher, Chicago Homeopathic Medical College, 1894, formerly of Battle Creek, Mich., died at the home of his parents in Mount Pleasant, Mich., October 30, aged 39.

Dr. William I. Hamlen, Michigan College of Medicine, 1883, a member of the Michigan State Medical Society, died at his home in Detroit, October 26, from pneumona; aged 57.

Dr. Raymond A. Young, of Grand Rapids, formerly a member of the Michigan State Medical Society, died October 26, 1912.

NEWS

Dr. Bion Whalen, of Hillsdale, was elected to the State House of Representatives on the Progressive ticket.

Dr. R. G. Cook announces the removal of his office from Fulton, Mich, to the McNair Building, Kalamazoo, Mich.

Dr. E. S. Sherrill and Dr. C. E. Simpson of Detroit announce the removal of their offices to the Broadway Market Building, Room 320.

The November Cosmopolitan contains a beautifully illustrated and charmingly written article, "The Messengers of Death," by Dr. Henry Smith Williams, dealing with the various insects known to transmit diseases: Housefly, anopheles, stegomyia, rat, flea, tick, tsetse fly and bedbug.

Joe Manitou, an Indian chief of the Pottawattomie tribe, died on October 24, at his home in Traverse City, Mich., at the reputed age of 120 years. Until recently his memory, it is said, was clear, and he could recall the details of the early Indian wars in which he had participated.

Dr. O. M. Vaughan of Covert, who has been president of the board of the superintendents of the poor for the past 15 years, has been unanimously elected by the board of supervisors for the sixth term. It is a handsome compliment to the doctor and is proof of the efficient manner in which he has performed the duties of this responsible position.—*Exchange.*

It is reported that President Taft has decided on the appointment of Dr. Carl L. Alsberg as successor to Dr. Wiley, though no formal announcement has been made. Dr. Alsberg at present occupies the position of chemical biologist in the Bureau of Plant Industry of the Department of Agriculture at Washington. He is a graduate of Columbia College (1896) and of the College of Physicians and Surgeons, New York (1900), and was formerly instructor in biological chemistry in the Harvard Medical School. He has also taken courses in chemistry and biological chemistry in some of the German universities. He is thirty-five years old.

Dr. H. J. Schierson, formerly of Detroit, who confessed to conducting an illegal "clinic" in Pittsburgh, Pa., where foreigners were fleeced, was Nov. 9 sentenced to serve 10 months in the Allegheny county workhouse.

Schierson was sought by the Detroit authorities for alleged illegal practices in Detroit. He fled to Pittsburgh and was being held there for extradition when he was released just before Detective John Steinhebel arrived. The two Allegheny county detectives were removed and prosecuted for their part in helping Schierson outwit the Detroit officers. It was alleged that they took money from him for their assistance. —*Detroit Free Press.*

Since Oct. 1 the following articles have been accepted for inclusion with New and Nonofficial Remedies:

Casoid Diabetic Flour, Thos. Leeming & Co.
Paratophan, Schering & Glatz.
Phenoco, West Disinfecting Co.
Tuberculin B. E., Cutter Laboratory.
Tuberculin B. E., Bovine, Cutter Laboratory.
Tuberculin O. T., Cutter Laboratory.
Tuberculin O. T., Bovine, Cutter Laboratory.
Tuberculin B. F., Cutter Laboratory.
Tuberculin B. F., Bovine, Cutter Laboratory.
Tuberculin T. R., Cutter Laboratory.
Tuberculin T. R., Bovine, Cutter Laboratory.
Tuberculin Ointment (Moro's Reaction), Cutter Laboratory.
Tuberculin for the Thermal Reaction, Cutter Laboratory.

The American Surgical Association has appointed a committee consisting of Drs. William L. Estes, South Bethlehem, Pa.; Thomas W. Huntingdon, San Francisco, California; John B. Walker, New York City; Edward Martin, Philadelphia; and John B. Roberts, chairman, 313 S. 17th St., Philadelphia, to report on the Operative and Non-Operative Treatment of Closed and Open Fractures of the Long Bones and the value of radiography in the study of these injuries.

Surgeons, who have published papers relating to this subject within the last ten years, will confer a favor by sending two reprints to the chairman of the committee. If no reprints are available, the titles and places of their publication are desired.

John B. Roberts, Chairman.
313 S. 17th St., Philadelphia, Pa.

SOCIETY NEWS

KALAMAZOO ACADEMY OF MEDICINE

The meeting of October 8 was presided over by the president, Dr. O. H. Clark. Twenty-five were present.

Plans were formulated and motion prevailed to have the annual meeting on the second Tuesday of December, and to have this an occasion for the promotion of public health matters. It was suggested that an afternoon meeting be had for the public, on a popular topic by some one of national reputation, and in the evening to have a banquet, to which should be invited in addition to all members of the Academy, their wives and friends, many influential persons from the territory covered by the Academy, such as teachers, ministers, editors and lawyers. At the banquet our guests of honor will discuss public health matters, so that, through those present, their talks may reach the whole territory covered by the Academy.

As yet no names can be announced, but will be as soon as possible. The Program, Health and Social Committees are to have charge of the affair. The idea of getting away from an occasion of light frivolity customary at banquets, and make the occasion really count for some progress, met with general approval.

Reports of the International Congress of Hygiene and Demography were given by Drs. Rockwell and Light.

Dr. Crosby reported a case of Infantile Paralysis, and Dr. Crane reported a case of trichinosis.

Owing to the lateness of the hour, Dr. Jackson asked to be excused from giving his paper.

The regular meeting was called to order by Dr. O. H. Clark, the president, on Oct. 22, 1912.

On account of illness, Dr. Canfield was unable to read his paper, as announced in the last *Bulletin*.

Dr. John R. Williams, of Rochester, N. Y., read a paper on "The Municipal Milk Problem," illustrating same with many lantern slides.

Thirty-eight were present. There were several visitors, among whom was Dr. Wilfrid Haughey, Secretary of the Michigan State Medical Society.

Abstract of paper by Dr. John R. Williams, of Rochester, N. Y., on

"The Municipal Milk Problem."

Rochester's reputation for clean milk is not fully merited. Many conditions exist which should be made better. About a year ago an investigation was made. This investigation took nothing for granted, and was made with reference to the economic questions involved. The three things considered were: (1) Production, (2) Distribution and (3) Consumption.

Milk is produced in an unclean manner because the business is not profitable. The farmer who produces milk is often wasteful. He does not carry on his farm in a business-like way.

He does not receive enough for the milk that he produces. Valuable land in the suburbs of the city is used for pasturing cows because the rapid increase in value of such property does not stimulate its development for other purposes. Milk produced on this valuable suburban real estate is always very bad.

The distribution of milk is very wasteful from an economic standpoint. Small dealers follow each other about over the same territory. Each dealer travels many miles to deliver a small quantity of milk. Many of these dealers have very poor equipment for handling milk. They can never be made to handle milk in a sanitary manner. If these wastes could be cut off, milk could be handled with the very best equipment and in a modern sanitary manner, at a saving of over one-half a million dollars every year in the city of Rochester.

Consumers attach more importance to the price of milk than they do to its quality. Proprietary milk is used by many families because they do not have ice to keep milk after it is delivered.

DISCUSSION

Dr. Crane stated that Dr. Williams had done all this investigating purely on his own resources and without any encouragement except his own scientific interest in the problem. He stated that Kalamazoo would be benefited by such an investigation.

Dr. Haughey, of Battle Creek, asked about the cost of certified milk and the pay received. He described a dairy near Battle Creek which approached ideal conditions very closely.

Dr. Clark, Milk Inspector for Kalamazoo, said that in this city the small dealer had as good milk as the large one, as a rule, and that the supply, as a whole, had improved noticeably during the past year.

Dr. Epler stated that two or three years ago the bacterial count was 750,000 to 1,000,000 where it is now near an average of 10,000.

Dr. A. L. Robinson, of Allegan, asked if the bacterial count is any different in milk which has been centrifugated and that which has not. Dr. Clark answered this question, saying that centrifugated milk usually has a higher bacterial count than the same milk not so treated, most likely on account of the increased chances for contamination while passing through the machine.

Discussions were also heard from Drs. O. H. Clark, J. B. Jackson, A. W. Crane and Mrs. Caroline Bartlett Crane.

Dr. Williams, in closing, said that good milk can not be produced profitably for the price received. He said that he did not attempt to give a remedy because the purpose of the paper was more to encourage investigation into similar conditions elsewhere. He believes that proper distribution will decrease the cost of milk two to three cents a quart to the consumer. Also that the ultimate solution of the milk problem will be to pay the producer for milk on the basis of butter fat and bacterial count. This, he declares, is now being worked out in New York with a maximum count of 30,000 and an average of 2,000 to 6,000. Separators multiply bacteria by 2. But standards of safety are more important than even the bacterial count; e. g., having to do with the prevention of tuberculosis, typhoid and infectious diseases. C. E. Boys, Secretary.

MICHIGAN STATE BOARD OF HEALTH

Proceedings of the regular meeting, Oct. 12, 1912.

1. Arranged for conference regarding Railroad Sanitation with representatives of all roads operating in Michigan. Conference called for November 20, in the office of the secretary at Lansing.

2. Appointed Dr. S. Szudrawski, Manistee, State Medical Inspector for north half of the ninth congressional district.

3. Next Embalmers' Examination will be held at Lansing, November 20-21.

4. Syphilis and Gonorrhea were placed in the list of diseases to be reported by physicians to health officers and by the latter to the State Department of Health. These cases are not to be reported by patients' names but by numbers. Special blanks will be prepared immediately for these reports.

5. The secretary was instructed to cooperate with the State Superintendent of Public Instruction in efforts to secure legislation providing for medical supervision in public schools and providing for a Public School Building Code.

6. The secretary was instructed to take up with the attorney general the drafting of bills for the consideration of the next legislature. Legislation providing for the following will be asked:

1. State Board of Health supervision of water works systems.

2. State Board of Health supervision of sewage disposal systems.
3. State Board of Health authority and means to restrict contamination of lakes and streams used as sources of public water supply.
4. State Board of Health authority to convene local health officers in conferences, and provision that health officers' expenses in attending the conferences be paid by the jurisdictions represented.
5. Medical Supervision in Schools.
6. Public School Building Code.
7. State Sanitary Engineer.
8. County Health Officers.
9. State Board of Health closer supervision of appointment and dismissal of local health officers.
10. Supervision of Midwifery.
11. Hotel Sanitation.

CLINTON COUNTY MEDICAL SOCIETY

At the annual meeting of the Clinton County Medical Society, November 7, the following officers were elected: Dr. J. T. Abbott, Ovid, Mich., President; Dr. J. E. Taylor, Ovid, Mich., Vice-President; Dr. Eugene Hart, St. Johns, Mich., Secretary-Treasurer.

Dr. A. R. Coon, of Dewitt, made application for membership and was accepted.

EUGENE HART, Secretary.

GENESEE COUNTY MEDICAL SOCIETY

The annual meeting of Genesee County Medical Society was held October 29, at 3 p. m., in St. Cecilia Hall.

The annual reports were given and the following officers elected: President, Dr. Noah Bates; vice-president, M. S. Knapp; secretary, C. P. Clark; treasurer, F. B. Miner; director, W. G. Bird; delegates, A. J. Reynolds, W. J. Wall; alternate delegates, H. Cook, H. D. Knapp. Member of medico-legal committee, H. R. Niles. Advisory committee to Hospital Board, Drs. Conover, Randall and M. S. Knapp.

Following the business meeting, Dr. Angus McLean gave an interesting talk illustrated by charts on "Surgical Diseases of the Upper Abdomen." An interesting discussion followed.

Dr. McLean was given a vote of thanks and elected an honorary member of the Society.

A dinner in honor of Dr. Noah Bates was given at Hotel Dresden at 7 p. m. Dr. Wheelock was toastmaster and many toasts were given in honor of our guest, Drs. Don D. Knapp, Annie S. Rundell, H. W. Graham, J. G. R. Manwaring, H. E. Randall, C. B. Burr, B. E. Burnell, M. W. Clift, E. D. Rice, Noah Bates, responding.

C. P. CLARK.

GRAND TRAVERSE-LEELANAU COUNTY MEDICAL SOCIETY

The annual meeting of the Grand Traverse-Leelanau County Medical society was held Nov. 10 at the Traverse City State Hospital. Thirteen members were present. Out-of-town guests were Drs. Edmunds and Payne. The following officers were elected for the ensuing year: President, Dr. F. Holdsworth; vice-president, Dr. J. F. Slepicka; secretary and treasurer, Dr. James A. J. Hall.

After the routine business was disposed of, Dr. James D. Munson read a paper on "The Surgery of the Insane." This was followed by a general discussion.

After adjournment, a banquet was tendered those present by Dr. James D. Munson, the retiring president.

TUSCOLA COUNTY MEDICAL SOCIETY

The Tuscola County Medical Society renewed contract for care of the indigent sick for another year with the supervisors.

The following fee bill has also been adopted and put in operation by the Society:

TUSCOLA COUNTY MEDICAL FEE BILL

Physical examination in office	$2.00 to $5.00
Insurance examination—fraternal	2.00
Insurance examination—old line	5.00
Office consultation (medicine extra)	50c to 1.00
Refilling prescriptions	50c and upward
Examination of sputum	2.00
Lancing carbuncle, felon, etc	50c to 2.00
Tonsillotomy, removing tonsils and adenoids	10.00 to 25.00
Bedside consultation	5.00 and mileage
Resection of ribs for empyema	25.00 to 50.00
Aspiration	3.00 to 7.00
Circumcision	7.00 to 10.00
Reduction of fractures and dislocations (major)	10.00 and upward
Reduction of fractures and dislocations (minor)	2.00 and upward
Surgical operations (major)	25.00 and upward
Day calls in village (medicine extra)	1.00
Night calls in village, 9:00 p. to 7:00 a. m. (medicine extra)	1.75
Day calls in country	1.00 and 50c a mile
Night calls in country, 7:00 p. m. to 7:00 a. m.	1.75 and 50c a mile
Calls off the road (medicine extra)	1.00
More than one patient in same house, extra patient same as office consultation.	
Advice by telephone	50c
Confinement	10.00 to 15.00 and mileage
When detained more than four hours an extra charge will be made. Subsequent calls when necessary at regular rate of other calls.	
Confinement with instruments	15.00 to 25.00
Anesthetic	5.00 and mileage
Anesthetic for dentist	3.00 to 5.00

W. C. GARVIN, Secretary.

WAYNE COUNTY MEDICAL SOCIETY

The regular meeting of the medical section of the Wayne County Medical Society was held Monday, October 14. Dr. Hugo Freund, chairman, and Dr. J. H. Dempster, secretary, presided. An interesting case of favus was presented by Dr. Rolland Stevens. The case showed marked improvement under *x*-ray treatment.

Dr. Hugo Freund presented a case of Proliferating Mesarteritis. Patient months ago complained of inability to use his left foot and his right hand. The condition was said to be rare in young individuals, and in those born in this country. Dr. Levy called attention to a case in which the condition was limited to one finger, the patient being a heavy user of tobacco.

The Treatment of Pulmonary Hemorrhage was the title of the paper of the evening, by Dr. V. C. Vaughan, Jr.

Authorities state that from 60 to 80 per cent. of all cases of pulmonary tuberculosis suffer from hemoptysis at some time during the course of the disease. The hemorrhage may occur at any stage of the disease. Frequently the first indication of serious pulmonary trouble is the occurrence of a more or less profuse hemoptysis. In early cases the bleeding is usually slight, apt to recur, and fatal hemorrhage is rare. After the formation of cavities bleeding comes either from erosion of a vessel in the wall of a cavity or occasionally a fatal result rapidly follows the rupture of an aneurysm of the pulmonary artery.

Among 804 patients treated in the Board of Health Tuberculosis Hospital to date, 51 or 6.3 per cent. have suffered from serious pulmonary hemorrhage during their residence in the institution. Five of these cases died during the first hemorrhage, which occurred in connection with the rupture of a large vessel, death from loss of blood resulting in 10 to 15 minutes. In these cases the blood was distinctly venous in type and unmixed with air. Where bright red arterial blood was present, hemorrhage was usually not so profuse. Apparent discrepancy, due to fact that pulmonary artery contains venous, while pulmonary vein contains arterial blood.

First essential in treatment of hemorrhage is absolute and complete rest, both physical and mental. Patient should be in bed, icebag over hemorrhage area or the heart, strapping of affected side with adhesive. If in doubt as to exact source of bleeding, a strip of adhesive may be bound tightly around the chest just above the nipple line in order to lessen respiratory movements. When hemorrhage is excessive application of ligatures to extremities sufficiently tight to interfere with venous return, but not with arterial supply to the limb may be of assistance.

Control of cough imperative. Morphine in ¼ gr. doses by hypodermic, repeated every four hours if necessary. As soon as immediate bleeding controlled substitute codein, grs. ½ to 1 by hypodermic. Nausea following morphin relieved by mixture of sodium bicarbonate ʒiij, tartaric acid ʒij, Aq. ad. ℥iii, a teaspoonful every half hour. Talking on part of the patient prohibited and relatives and friends should be excluded from the room.

With regard to diet nothing but chipped ice for six to eight hours, after which small quantities of water, milk and albumin water at frequent intervals. On second day custards, milk and hot water toast, and on fourth day solid food, care being taken that small amounts are given at any one time. Tea, coffee and alcohol not allowable.

Bowels should be left alone for four or even five days following severe hemorrhage, and provided no abdominal distress. A rectal injection of 4 to 6 ounces of olive oil, which can usually be retained for 2 or 3 hours is then given, followed by an enema preferably given by the psysician himself, who can control the amount of straining and effort on the part of the patient.

Drugs of service, those which lower pressure in pulmonary circulation and those which increase the coagulability of the blood. The pressure in the systemic circulation is no guide to the pressure in the pulmonary circuit. Wiggers has shown experimentally that pituitary extract is the one drug at present in use which raises and maintains the systemic pressure and at the same time causes a fall in pulmonary pressure and a decrease in the amount of pulmonary hemorrhage. The use of pituitrin has been followed by cessation of hemorrhage which failed to respond to other remedial agents.

Coagulability of the blood may be increased by administration of calcium chloride or lactate in 15 gr. doses every four hours on each of three successive days. Organ extracts such as those of the pituitary gland also increase coagulability. Where these methods fail and in repeated hemorrhage with no tendency to clot

formation, the use of fresh animal or preferably human serum is justified. The author has stopped intractable hemorrhage in seven cases by this means. The danger of sensitization should be borne in mind and a test dose of a tenth of 1 c.c. of the fresh serum should be administered. If no untoward effects are observed in an hour, 20 to 30 c.c. of the serum should be injected in 10 c.c. doses at intervals of from 6 to 12 hours.

Dr. E. W. Haass said that Dr. Vaughan had covered the subject so thoroughly that there was little left to be said. He deserved the thanks of the meeting for discussing the use of sera and the pituitary extract to increase the coagulability of the blood. Dr. Haass first used pituitrin and recommended it to the society.

Dr. G. H. McFall felt there was little more to say. He had used pituitrin and found it a useful agent.

Dr. Newman asked if there was any virtue in gelatin, which in explanation Dr. Vaughan considered was due to the calcium salts contained.

Dr. Mercer thought harm was often done by too frequent or too thorough examination of hemorrhagic patients.

Dr. Van Amber Brown read a case report of a profuse hemorrhage from the uterus which case terminated in recovery.

The attendance amounted to 60 members.

The regular meeting of the Wayne County Medical Society was held Monday evening, October 21, when the auditorium was filled to its utmost. Dr. E. W. Haass presided, R. L. Clark, Secretary. The members were fortunate in the opportunity to hear the first out-of-town speaker for the season, Dr. V. C. Vaughan, Dean of the Medical Faculty of the University of Michigan. Dr. Vaughan's subject was

"Anaphylaxis and Its Relation to Immunity and Disease."

He prefaced his address by expressing a feeling of satisfaction in meeting so many of his old students, as well as many others whom, though not students, he considered his friends. The term "Anaphylaxis," the speaker considered very misleading. If it meant anything at all, it meant "without protection." Recent studies have quite revolutionized our ideas regarding infectious diseases. All bacteria were unicellular organisms, and the animal body was made up of many cells, so that every infectious disease was an instance of foreign cells invading body cells. The majority of bacteria, it was explained, have no effect upon man, because in the first place the bacterial cell was not able to split up the body cells of man, in order that it might live and multiply. A capability of a cell to furnish poison did not determine whether it was pathogenic or not. In illustration of this, the prodigiosus which furnished the greatest amount of poison was classed among the non-pathogenic germs. The anthrax bacillus, on the other hand, highly pathogenic, was only slightly poisonous. All instances of racial and many cases of individual immunity were explained by the fact that the invading germ could not split up the cells in the animal body, while the body cells were able to render harmless the bacterial cells.

It has been long suspected by medical science that proteins furnish poisonous substances such as uric acid, and that they produce auto-intoxication. It has been said, for instance, that it it is not well for man to eat too much meat protein. It is only within recent years, however, that we have been able to understand why this is true. Every protein molecule, whether dead or alive, contains a poisonous substance; the poisonous part of the protein molecule has never been obtained in a pure state. One one hundred and thirtieth grain of a protein will kill a guinea-pig in five minutes. This is a poison and not a toxin. It produces no antibody. Animals cannot be immunized to it—showing that it is a poison, not a toxin. Yet, we eat protein at every meal while every molecule of protein contains a deadly poison. The elementary ferments break down the molecule until it reaches the peptones—also poisonous. We are saved from protein poisoning, Prof. Vaughan went on to say, in two ways—in the first place, the poison in question is not diffusible, that is, it does not pass through animal membranes and is therefore not absorbed from the alimentary canal. In a healthy individual it matters not how much protein he eats, since it is not diffusible. As digestion proceeds the poison is split up and rendered non-poisonous, the products being the amino-acids, none of which are poison. It used to be supposed that the gluten flour, the casein of milk changed but little in the alimentary canal. The digestion of protein, however, changes them completely into non-protein bodies, which are synthetized to form the proteins characteristic of the human

body. All proteins of the body, except the crystalline lens, the speaker explained, were specific, that is, they differed from the proteins of any other species.

There were two forms of digestion, enteral digestion, which took place in the alimentary canal, and par-enteral digestion, which meant digestion anywhere else than in the alimentary canal. Proteins sometimes got into the body without getting into the alimentary canal Such proteins, for instance, as the protozoa and bacteria. They gained entrance in the human body by inhalation or through wounds. Once into the body, they grow and multiply, providing the ferments are able to split up the tissues of man, so the cells of the body, outside of the alimentary canal, must elaborate ferments. This is called "parenteral" digestion, or digestion into the blood or tissues. A ferment is elaborated by the blood-cells or fixed cells, so the poison of the protein molecule is set free. In this instance, it is clear that there is no alimentary canal to protect the body so that we have the action of the poison. Anaphylaxis is a study of parenteral digestion and its effects.

Dr. Vaughan spoke of the symptoms of the untoward effect of the second injection under three stages. In the first place, he had the stage of peripheral irritation, manifest by the guinea-pig scratching every part of the body, the irritation not being limited to the site of the injection. This is the stage of urticarias and erythemas. The second stage was marked by greater or less paralysis and lack of coordination, while the third stage was characterized by opisthotonus, ending in death. This condition is what we obtain by a second injection in an animal. Now what has taken place? What we have done is to split up the protein and inject protein poison. Death from anaphylaxis is death from protein poisoning. When the animal dies we say that he passed through anaphylactic shock.

In the majority of instances of "serum disease" the child has had a previous injection. Rosenau found that asthmatic patients were not good subjects for serum treatment, and that they were apt to experience anaphylactic shock. Asthmatic patients are apt to have attacks from simply riding behind horses.

The question frequently arises in regard to the advisability of using diphtheritic antitoxin where it is known that the patient has received injections. This is frequently a matter of perplexity. Dr. Vaughan answered that with a little care it might be used with safety a second time. Take a sensitized animal and inject a small amount, wait until the symptoms have passed off and then one can give all the serum that is required. "Serum disease" is not known in France. All curative sera made at the Pasteur Institute are headed 55°, as to destroy the ferment. In France they administer 1/50 of a cubic centimeter, then wait two hours, at the end of which time they may give all they want. Anaphylaxis includes all parenteral digestion.

Dr. Vaughan explained in conclusion that one great thing that the medical profession needed was "harmless sensitizers," but when we would ever get them the speaker could not tell. One could not put an unbroken protein into a man's body without poisoning. We need something, said Dr. Vaughan, that will immunize against tuberculosis. It is doubtful if we will ever get rid of tuberculosis until we have such a vaccine. In many parts of the world men are working to produce a vaccine which will sensitize and do no harm.

At the conclusion Dr. Vaughan answered queries put by Drs. Fay, Suggs, Carstens, Collins and others.

The following physicians were elected to membership of the Wayne County Medical Society: Dr. W. F. Hamilton, 234 E. Grand Boulevard; Dr. L. H. Childs, 1771 Gratiot Ave.; Dr. Hoppel, Providence Hospital. Associate Membership: Adolph Lappner, D.D.S., 170 Horton Place.

The Surgical Section held its regular monthly meeting, Monday evening, October 28. The chairman, Dr. Walker, presided; Dr. Hewitt, secretary pro tem. Dr. McLean presented a case of a stiff elbow treated by the insertion of the neighboring aponeurosis into the joint, giving useful motion and no pain.

Dr. Ballin gave a paper on

"Prognosis in Goiter Operation."

A good prognosis is founded upon an accurate diagnosis and a thorough knowledge of the therapeutic agents available. The art of prognosis has been well developed in appendicitis. The prognosis in goiter operation has much improved in the last few years. The prognosis is a very simple one in simple goiter. The functional enlargement of the gland occurring during puberty or pregnancy is the only form which will yield to medicine. A few rare

cases of exophthalmic goiter can be treated medicinally. The mortality in simple goiter is practically *nil*. The simple goiter should be removed for cosmetic reasons, because of pressure symptoms and because of the danger of later causing exophthalmic symptoms.

The prognosis in exophthalmic goiter is very different. The mortality has come down from 12 or 15 per cent. to 2 per cent. This depends on severity of the symptoms, and other factors. The heart symptoms are the most important ones in prognosis. These are much exaggerated in the few days following the operation. A large dilated heart should be a sign to wait until the heart is in better condition. The nervous symptoms are important as to the choice of an anesthetic. Most surgeons have gone back to general anesthesia as this lessens the post-operative thyroidism. The type of goiter is of prognostic importance. The nodular goiter is a favorable form. A real exophthalmic goiter without adenoma is the dangerous form to operate on. A large increase of the small lymphocytes is a bad prognostic sign. This means a lessened resistance. When they go up above 40 per cent., operation should be postponed, if possible. The *x*-ray findings have become of great importance in recent years. The large retrosternal growths are shown by *x*-ray plates. Deviations of the trachea can also be shown in this way. The persistence of the thymus may also be revealed. This may be the cause of sudden death in these cases and increases greatly the gravity of the prognosis. The presence or absence of diarrhea, vomiting or polyurea may be the deciding factor in the prognosis. The proper time as to the operation may be the deciding factor, as time of intermission should be sought if possible. The type of operation may be an important factor in the prognosis. If the patient is very bad, a ligature of the thyroid arteries may be a preliminary operation, which can later be followed by an excision if the symptoms are not permanently relieved; in 90 per cent. of the cases the symptoms will be relieved. Surgical treatment will give the best prognosis in the care of exophthalmic goiter. If medical treatment has been tried without benefit for a few months, the patient should be operated. If this is postponed too long, changes in heart and nervous system become established which can be arrested but not removed. Lantern slides were shown illustrating the pathological changes in the gland, the results obtained by operation on the blood count, clinical cases, *x*-ray plates, etc.

Dr. Freund opened the discussion and advocated early operation in cases of exophthalmic goiter. Long before the other symptoms arise, a rapid heart may be discovered. Those cases which should be treated medically are those whose hearts are in such shape as to preclude operation. Dr. J. W. Vaughan called attention to the fact that the first goiter operation was done in the seventies by Dr. Green, in Ann Arbor. The prognosis is much better in secondary exophthalmic goiter than in primary exophthalmic goiter. The technique of operation is undoubtedly one reason for the better mortality now and the fact the cases are seen earlier is another reason. Dr. McLean advocated attention to the other organs as well as the heart. Dr. Brooks uses a general anesthetic, but combines it with cocain injections. Dr. Chene suggested raying the thymus when its presence is demonstrated by the *x*-ray plate. Dr. Sanderson also discussed the paper.

The regular meeting of the society was held Wednesday evening, November 4. The president, Dr. Haass, presided. Dr. Clark, secretary. Dr. Hugo Freund presented a case of Dermatomyositis of unknown origin.

Mr. Hal Smith discussed

"The Workman's Compensation Act."

The point of view from which this legislation should be considered is the humanitarian standpoint. Until the enactment of this law all such cases came under the employer's liability law. Under this usage, the workman was compelled to prove the negligence of the employer and even if this were proven, the master had three other lines of possible defense. He could assert contributory negligence on the part of the workman, negligence on the part of a fellow workman, or the doctrine of assumption of the risk when the workman took his employment. These defenses grew out of the much simpler industrial conditions of years ago and represented justice in those days. The conditions of modern industry, however, have so changed as to make them no longer fair or just. The dangers of industrial life should not be borne entirely by the worker, but should be distributed over the rest of the community which shares alike in the advantages of the new conditions.

The manufacturers expend about $750,000 a year in Michigan to insurance companies for

defense against the results of accidents. Not more than 27 per cent. of this large sum ever reached the injured men. The balance of this went to the insurance companies, lawyers, witnesses, etc. This system has called for the workman's compensation. It rests on the theory that if a workman is hurt by an accident in an industrial occupation, he is absolutely entitled to compensation unless wilfully negligent. This theory is new in Michigan, but not in the world at large. As long ago as 1885, Germany offered workman's compensation. The opponents of this said it would set back Germany many years. On the contrary this has proved a great success. It has spread all over Europe and even to Peru and Japan. The German system is much like the Michigan law. Last year 27 million workers were under the compensation law in Germany alone. Great Britain was one of the last to embrace this system. About 4 years ago New York appointed a commission to study this, demonstrating the great expense of the old insurance system. They drew up a compulsory act which was declared unconstitutional by the courts. Many friends of workmen compensation were stimulated and many states took up the question. The commission in Michigan demonstrated an astonishing waste in the courts, as well as in the insurance companies. The average paid for a human life even when negligence of the master was proven was eight hundred dollars.

The Workman's Compensation law rests on a broad, humanitarian principle and not on a legal fiction. It rests on the theory of a contract, the workman that he will accept this compensation and the master that he will give this compensation. The employer, if he will not accept this contract, will have his liabilities doubled. The workman who refuses to come under the law, is left under the legal restraints of which he has complained in the past. Three to four thousand employers in this state have agreed to come under the law. No workman has refused to come under the law. Those who are injured under the law receive automatically a specified sum depending on the amount of the wages which the workman has been receiving. Domestic servants and farm laborers are not as yet included under the law. The amount of compensation is graded according to the wages received and the amount of injury. The definiteness of amount of damages was the thing aimed at. The certainty of payments was another thing aimed at. If the employer and workman cannot agree on the amount of the compensation, then an arbitration board consisting of one representative of the master, one representative of the man and one representative of the state industrial board, considers the matter. The man has a choice of his physician. The employer has a right to have his physician examine the man. The arbitration board can call a physician to give his advice as to the extent of the injury. The fee for this service has been fixed at five dollars. The arbitration board passes on the fact and this decision is final and the sum is then due and becomes a prior lien on the employer. If he is solvent enough, he can carry his own insurance, or he can insure, or can join a mutual company or he can pay into the insurance commissioner of the state a sum to meet these claims.

The idea of this law is to prevent injury rather than to pay compensation after the accident has happened. This has stimulated the study of the prevention of injury and accident throughout the industrial world.

The employer is liable for medical and hospital care for the first three weeks and is not liable for compensation for these three weeks' injuries. Unless the injury lasts more than two weeks, no compensation can be collected. The accident companies have increased the premiums from two to eleven times. The limit of the increase of the liability of the master has not and probably will not be reached for twenty years. Should the results of the injury extend more than eight weeks the compensation begins on the first day of the injury. If less than eight weeks, the compensation begins on the fifteenth day.

Mr. Smith answered a number of questions asked by the members and was tendered a vote of thanks for his kindness in coming before the Society with such a clear and concise statement of this interesting act.

Dr. Gunsolus reported a case.

The following were elected to active membership:

Milton G. Goff, 515 Mack Avenue.

Robt. C. Hull, 856 Forest Ave. E.

Alfred W. Holmes, Springwells, Mich.

John S. Owen.

And to associate membership:

William R. Alvord, D.D.S., 1907 Woodward Avenue.

MEDICAL ECONOMICS

CONFERENCE OF STATE SECRETARIES

One of the most important meetings since the reorganization of the American Medical Association at St. Paul, in 1901, was the Conference of the Secretaries of State Societies, called by the Committee on Uniform Regulation of Membership at the Association headquarters, Chicago, October 23 and 24. This committee was appointed in 1908, in accordance with a recommendation made in the Secretary's report for that year. At the Atlantic City session, last June, the committee summarized its reports for the last four years, and recommended that a conference of state secretaries be authorized to consider the entire question of membership conditions in the county, state and national organizations. This recommendation was referred to the Board of Trustees and a conference between the committee and the state secretaries was authorized by the Board of Trustees, to be held at the same time as the October meeting of the board. Appropriations were made for paying the expenses of all state secretaries who attended the meeting. The conference was called to order at 10:30 a. m., Wednesday, October 23, at the Association building in Chicago, by Dr. Thomas McDavitt, secretary of the Minnesota State Medical Association and chairman of the Committee on Uniform Regulation of Membership.

THE ATTENDANCE

Thirty-eight states were represented, the roll showing the following in attendance:

Dr. W. W. Watkins, Phoenix, Ariz.
Dr. C. P. Meriwether, Little Rock, Ark.
Dr. Philip Mills Jones, San Francisco, Cal.
Dr. G. W. K. Forrest, Wilmington, Del.
Dr. W. C. Lyle, Augusta, Ga.
Dr. E. E. Maxey, Boise, Ida.
Dr. E. W. Weis, Ottawa, Ill.
Dr. Charles N. Combs, Terre Haute, Ind.
Dr. J. W. Osborn, Des Moines, Iowa.
Dr. L. R. DeBuys, New Orleans, La.
Dr. W. B. Moulton, Portland, Maine.
Dr. W. S. Gardner, Baltimore, Md.
Dr. H. D. Arnold, Boston, Mass.
Dr. Wilfrid Haughey, Battle Creek, Mich.
Dr. Thomas McDavitt, St. Paul, Minn.
Dr. E. F. Howard, Vicksburg, Miss.
Dr. E. J. Goodwin, St. Louis, Mo.
Dr. H. D. Kistler, Butte, Mont.
Dr. Joseph M. Aikin, Omaha, Neb.
Dr. Martin A. Robison, Reno, Nev.
Dr. D. E. Sullivan, Concord, N. H.
Dr. Thomas N. Gray, East Orange, N. J.
Dr. R. E. McBride, Las Cruces, N. Mex.
Dr. John Ferrell, Raleigh, N. C.
Dr. H. J. Rowe, Casselton, N. Dak.
Dr. J. H. J. Upham, Columbus, Ohio.
Dr. Claude A. Thompson, Muskogee, Okla.
Dr. M. B. Marcellus, Portland, Ore.
Dr. C. L. Stevens, Athens, Pa.
Dr. J. Perkins, Providence, R. I.
Dr. Edgar A. Hines, Seneca, S. C.
Dr. Perry Bromberg, Nashville, Tenn.
Dr. H. Taylor, Fort Worth, Tex.
Dr. W. B. Ewing, Salt Lake City, Utah.
Dr. C. H. Beecher, Burlington, Vt.
Dr. Grant Calhoun, Seattle, Wash.
Dr. Charles S. Sheldon, Madison, Wis.
Dr. W. H. Roberts, Sheridan, Wyo.

No representatives were sent from Alabama, Colorado, Connecticut, District of Columbia, Florida, Kansas, Kentucky, New York, South Dakota, Virginia and West Virginina. No effort was made to secure the attendance of the secretaries of the Hawaiian Territorial Medical Society, Medical Association of the Isthmian Canal Zone or the Philippine Islands Medical Society, as these secretaries were too far removed from the place of meeting to make it possible for them to attend.

THE PROGRAM

The following program was carried out:

1. Call to order, Dr. Thomas McDavitt.
2. History and Development of Membership in the American Medical Association and Its Component Parts, Dr. F. R. Green.
3. Some of the Difficulties of the Present Situation, Dr. A. R. Craig.
4. Remedies Proposed by the Committee, Dr. Thomas McDavitt.

DISCUSSION

A general discussion of membership regulation was conducted under the following heads:

1. Fiscal Year. Should the fiscal year coincide with the calendar year? Should the fiscal year be the same in all county and state societies?

2. Should membership expire automatically at the end of the calendar year, and a new roster for each county and state society be made with the beginning of each year?

3. When should membership reports from county secretaries to state secretaries be due?

4. Should the dues of new members, joining after the first of the year, be prorated for the remainder of the year?

5. Should an admission fee be required in addition to the annual dues?

6. Should uniform application blanks, receipt blanks, and membership and transfer cards be adopted?

7. Should constituent state associations hold charters from the American Medical Association?

8. Should a uniform plan for the transfer of members be adopted?

In addition to the above Dr. George H. Simmons, editor and general manager, discussed the question of membership in the American Medical Association, and the changes in name proposed by the Board of Trustees.

REPORT OF THE COMMITTEE ON RECOMMENDATIONS

After two days' discussion it was evident that the secretaries present were agreed as to the advisability of a uniform fiscal year for all parts of the organization, to coincide with the calendar year, and that they favored the expiration of membership at the end of each year and a complete revision of the membership rolls at the beginning of each year. The committee on recommendations, consisting of Dr. E. J. Goodwin, Missouri State Medical Association; Dr. Wilfrid Haughey, Michigan State Medical Society; Dr. Perry Bromberg, Tennessee State Medical Association; Dr. William S. Gardner, Medical and Chirurgical Faculty of Maryland, and Dr. F. R. Green, secretary of the committee and of the Council on Health and Public Instruction, brought in a report recommending the adoption of provisions on these two points, and that all other points be deferred for further consideration. The report of the committee follows:

The Committee on Recommendations herewith submits the following report:

1. We recommend that this conference endorse the plan of having the fiscal year coincide with the calendar year in all parts of the organization. We further recommend that secretaries of all state associations which have not already adopted this provision bring this matter to the attention of their associations and recommend its adoption.

2. We recommend that constituent state associations adopt provisions making dues in component societies payable on January 1 of each year, and requiring county secretaries to report to state secretaries all members in good standing, together with their per capita assessment for the current year not later than March 31. State societies desiring to do so may provide a shorter period.

3. The recommendation regarding the third question under discussion is covered by our recommendation of the second.

4. Regarding the prorating of dues, we recommend that this be made optional with each component society.

5. Regarding an admission fee for membership we recommend that this be made optional with component societies.

6. While the committee recognizes, as a general principle, that a uniform system of blanks for county and state societies is desirable, as soon as practicable, we recommend further consideration of this question at a later conference.

7. We recommend that the House of Delegates of the American Medical Association be asked to consider the advisability of issuing charters to constituent state associations.

8. We recognize the desirability and advantage of a uniform method of transfer, but this system cannot be established until there has been developed a greater uniformity in other details of organization. We therefore recommend that this question be made the subject of discussion at a future conference.

9. The committee recognizes the value of this conference to the state association secretaries, and to the purpose of organization; it therefore recommends that future conferences of this character be held.

The report of the committee was unanimously adopted by a rising vote. It was also moved and carried that the secretary be requested to send copies of the report to each state secretary and to each state journal, and that the proceedings of the conference, as published in the *Bulletin*, be furnished to each state secretary desiring them, in sufficient quantities to send one to each member of the state association. After a vote of thanks to the Board of Trustees for making this conference possible by the appropriation, the conference adjourned.

MISCELLANEOUS

MEDICAL DEFENSE

The subject of medical defense by state medical societies, has been discussed for several years in THE JOURNAL and in the journals of many state medical societies.

The question of the value of a mutual medical defense conducted by state medical societies has been settled in the affirmative. Our plan has been tried and has met with a fair degree of success. A number of cases have been won, many have not been pressed when the plaintiffs discovered that the state medical society would defend the case, and one case has been lost.

In the detailed working of the plan certain difficulties arise. In one case which we won and in which the costs were assessed upon the plaintiff, the Society has been compelled to pay these costs, because the plaintiff was uncollectable, and had not been required by the court to furnish suitable security for costs. This same difficulty is met in other places and at the recent tri-state meeting of the medical societies of Washington, Oregon and Idaho, President E. A. Sommer discussed this matter, making certain suggestions. An excerpt from Dr. Sommer's address appears in THE JOURNAL for September, page 581.

The question has been raised in Michigan, if it would not be possible to require by law that suitable security for costs be required of the plaintiff in all malpractice suits. Dr. W. H. Sawyer, President of the Michigan State Medical Society, who has had much experience in legislative matters, has been requested to comment upon these suggestions, and his letter follows:

HILLSDALE, MICH., Sept. 11, 1912.

Dr. Wilfrid Haughey, Sec'y Mich. State Med. Soc., Battle Creek, Mich.

Dear Doctor Haughey: To the extract from the address of Dr. E. A. Sommer, President of the Tri-State Medical Society, of Washington, Oregon and Idaho, which you enclose to me requesting that I discuss it, I am pleased to reply, giving my opinion of his suggestion.

Dr. Sommer only raises the question, as I understand it, without being positive that his solution is feasible. These are his words:

"It is possible that certain legislation may be of assistance to us in preventing the wholesale bringing of damage actions against doctors, where, as now, it is so easy for plaintiff to begin an action. If the latter wins, he divides the amount received with his attorney, and, if he loses, he is out about $15.00 that he has paid as fees for getting into court. But whatever the result of the litigation, the doctor is greatly injured as is the profession. Merely as a suggestion I would say that legislation along the line of requiring a person under such conditions to put up a bond to reimburse the doctor, in case the plaintiff is not responsible, or possibly a law making a criminal offense for a person to make a charge against a doctor unless he proves the same, might be reasonable and of benefit to our profession."

This is the problem presented: Would a statute be held to be constitutional which required the plaintiff, in an action for damages against a physician for malpractice, to give security for costs?

An examination of this question cannot be complete, nor can the question be answered, until we put the statute to the test of the basic principles underlying and governing the construction of all laws.

"Equality" is one of the leading tests in determining whether a law is within the constitution. All laws must have for their immovable basis the great principle of constitutional equality.

Judge Cooley, in his great work on "Constitutional Limitations," says:

"Those who make the laws are to govern by promulgated, established laws, not to be varied in particular cases, but to have one rule for rich and poor, for the favorite at court and the countryman at plough. This is a maxim in constitutional law, and by it we may test the authority and binding force of legislative enactments."

In this valuable work, Mr. Cooley further says:

"The state has no favors to bestow."

Now applying these well known principles of constitutional law to the answer of the question, and we are irresistibly led to the conclusion that a statute which provides that security for costs must be given in *all* actions for damages, would be valid for the reason that all defendants are treated alike. In other words there is equality. The state bestows no favors. While I have no doubt but that such a law would be held valid, I am not unmindful that such a law would be against the general policy of "driving the poor man out of court." The reason for holding such a statute valid, which requires security for costs in *all* damage cases, furnishes the reason for holding the proposed statute invalid.

The litigant must give a bond when he brings suit against a physician for damages, but he need not when he sues the railroad company, or an individual. Is not the physician clearly the "favorite at court?" Does not the state bestow a favor to a class? And are defendants in damage cases on an equal footing? The answer to this last question is clearly "No." Constitutional "Equality" has not governed. The doctor would enjoy a privilege not enjoyed by other defendants.

It is clear to the medical profession that many suits are commenced to recover damages

for alleged malpractice against physicians by unscrupulous practitioners in law, which are no less than blackmail, but this is also true of suits brought against railroad companies, corporations and individuals, and a law that compelled a litigant to give a bond in the one case, and not in *all* cases where damages are sought to be recovered, is clearly favoring the physician, a class, and could not stand the "Equality" test.

In conclusion, such a proposed statute would be invalid for the reason that it imposes a burden upon the litigant in actions against physicians, but not in all damage actions, and for the further reason that it discriminates in favor of one class, bestowing a favor to one class of citizens, not enjoyed by all citizens, and to sum it all up, it would be what is commonly known as class legislation. The court may at its discretion require of a plaintiff who manifestly has no just cause, security for the costs of prosecution. However, the courts are loath to prejudge a case and exercise this right.

Regretting that there is not some way of protecting the profession against blackmail and unrighteous prosecution. I am,

Yours sincerely,

Walter H. Sawyer.

OUR SURE CURES

The state food and drug department has been making disclosures that ought to be of practical value to people in this state. One of them, the other day, related to certain high-priced drugs that are sold as sure cures for consumption and other ills. It would seem that parents and school teachers have neglected their duties if they have not taught the children that a little medicine taken a few times internally cannot cure a broken down or wornout system. In such a case to depend simply on a drug or any one application of a relief agency would be comparable to depending on a coat of paint to restore a burned structure or a wrecked engine.

Science and the medical fraternity have done great things. But their most ardent devotees cannot, and doubtless do not, claim that they have solved all the riddles of human ailments. If they have not been able to do so by turning over their hand or administering a bottle of "dope" to consumptives, for instance, why should a reasonable person conclude that an ignorant quack can work miraculous cures? There is hope and help for the sick, but they do not come from charlatans and impostors. Science is making headway against the great plagues of the race. Relief and even cures are now possible where once there was no hope; but intelligence, skill, fresh air and good surroundings, and not three doses a day of some remedy unknown to science, are the main dependencies.

It may be seriously asked why the people so often turn to fake remedies. The medical fraternity cannot escape its share of the blame. There are recognized medicine men who are incompetent and inconsiderate. Primarily the authority to practice medicine comes from the state. We have in Indiana a state board that has done something toward weeding out professional incompetents and crooks who practice medicine without knowledge or honor. This must go on until the state is rid of pretenders and incompetents, who prey on people in the hour of their distress. Warnings enough have been uttered so that the sick need not fall victims to sure-cure venders who would take the last dollar from a dying man in exchange for a worthless nostrum sold at a ridiculously high price.—Editorial, *Battle Creek Daily Journal.*

AN ANTIDOTE TO ALCOHOL

Ammonium chlorid is recommended as an antidote to alcohol, given in doses of 30 to 60 grains, with copious draughts of water to prevent gastro-intestinal irritation. It prevents the effects of the alcohol, sobers the patient quickly, and is a valuable preventive against delirium tremens. Should the patient not become quiet after taking the remedy, bromid or chloral hydrate may be administered.—*Medical Times,* July, 1912.

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1912, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies."

Casoid Diabetic Flour is a mixture of the albuminoids of wheat (gluten) and of milk (casein) composed of approximately: proteins 84.5, fat 1.4, mineral matter 2.5, cellular fiber, etc., 0.7, water 10.8. Employed in cases where

carbohydrates are contra-indicated, such as diabetes, amylaceous dyspepsia, etc. Thos. Leeming & Co., New York (*Jour. A. M. A.*, Nov. 2, 1912, p. 1622).

Paratophan is methyl-atophan, 6-methyl-2-phenyl-quinolin-4-carboxylic acid, $CH_3.C_9H_4N.C_6H_5.COOH$, 6:2:4=$C_{17}H_{13}O_2N$. Its action, uses and dosage are the same as atophan (See New and Nonofficial Remedies Department, May, 1912, p. 319). Paratophan tablets contain paratophan 0.5 Gm. (7½ grains). Schering & Glatz, New York (*Jour. A. M. A.*, Nov. 2, 1912, p. 1623).

Phenoco is a preparation of coal-tar creosote and higher phenol-homologues in soap solution. It is stated to contain 8 per cent. coal-tar creosote (obtained by the destructive distillation of coal and containing 15 per cent. cresol but no phenol) 62 per cent. higher phenol-homologues (phenols containing two or more methyl groups) and 30 per cent. soap. It is miscible with water forming an emulsion. It is an antiseptic and germicide, being in the latter respect 15 to 16 times as strong as phenol, and for mammals about one-half as toxic as phenol. It is used in dilutions of 1 per cent. to 5 per cent. or higher. The West Disinfecting Co., New York (*Jour. A. M. A.*, Nov. 9, 1912, p. 1717).

Tuberculins represent the toxins of the tubercle bacillus. They may be in the form of a filtered extract of the bacilli or may be composed of the pulverized insoluble substance of the bacilli themselves. In the latter, or emulsified form, tuberculin is shown as tubercle vaccine, and might be classed with the "Bacterial Vaccines." Supplied in the following forms:

Tuberculin Bacillen Emulsion, Tuberculin B. E., is a suspension of ground tubercle bacilli containing 5 mg. of the solid tubercle substance to each c.c.

Tuberculin B. E. Bovine is made in the same manner as the foregoing, except that the tubercle bacillus used is of the bovine type.

Tuberculin Old (Tuberculin O. T.). preserved with trikresol in 1 c.c. vials.

Tuberculin O. T. Bovine is made by the same process as the foregoing except that the organism used is of the bovine type.

Tuberculin Bouillon Filtrate is preserved with 4/10 per cent. trikresol in 1 c.c. vials.

Tuberculin B. F. Bovine is made in the same manner except that the bovine type of tubercle bacillus is used.

Tuberculin T. R., Tubercle Residue, is a suspension of 2 mg. of tubercle substance in each c.c. of the finished product.

Tuberculin Ointment (Moro Ointment) is a mixture of 50 per cent. each anhydrous wool fat and Tuberculin O. T., human strain.

Tuberculin for the Thermal Reaction contains in each c.c. 1 mg. Tuberculin O. T. Cutter Laboratory, Berkeley, Cal. (*Jour. A. M. A.*, Nov. 9, 1912, p. 1717).

THE TRUTH ABOUT MEDICINES

It is the purpose of this department to encourage honesty in medicines, to expose frauds and to promote rational therapeutics. It will present information regarding the composition, quality and value of medicaments, particularly as this is brought out in the reports of the Council on Pharmacy and Chemistry and of the Chemical Laboratory of the American Medical Association.

Carter's Little Liver Pills.—These are claimed to "cure constipation, biliousness, sick headache and indigestion." A typical advertisement says: "Do not persecute your bowels. Cut out catharties and purgatives. They are brutal —harsh—unnecessary." But while thus claimed to be free from purgatives, the analysis of this nostrum, published in "Secret Remedies," vol. 2, by the British Medical Association indicated the presence of podophyllin, licorice root, aloes and wheat starch (*Jour. A. M. A.*, Oct. 19, 1912, p. 1472).

D. D. D.—This is a nostrum exploited as an eczema cure both here and in England. As sold in the United States, each ounce contains, according to the label, as required by the Food and Drugs Act, chloral hydrate 7 gr. and alcohol 38 per cent. D. D. D. as sold in England does not contain chloral probably because the laws of Great Britain require that products containing such dangerous drugs as chloral be provided with a poison label. An analysis made by the British Medical Association, published in "Secret Remedies," vol. 2, indicated the following composition: salicylic acid, 0.75; carbolic acid, 1.18; oil of wintergreen, 1.00; glycerin,

9.28; alcohol, 65.10 and water 22.69 (*Jour. A. M. A.*, Oct. 19, 1912, p. 1472).

Celmo.—Celmo, a patent medicine sold as a cure for rheumatism, shows how a commonly-used, well-known drug may be put out under a fancy name, exploited by fraudulent claims and foisted on the public as something entirely new. While sold as an entirely new method of treating rheumatism an analysis made by the British Medical Association and published in "Secret Remedies," vol. 2, indicates that its chief constituent is the widely used acetyl-salicylic acid or aspirin. The analysts reported this "wonderful new remedy" to consist of: acetyl-salicylic acid, 35.5 per cent.; powdered charcoal, about 8.0 per cent.; malt extract, dry, 18.0 per cent.; talc, 14.5 per cent.; other mineral constituents 2.8 per cent.; water, 12.3 per cent.; alkaloid, 0.5 per cent.; extractive, about 8.0 per cent.; oleoresin of capsicum, trace, and oil of juniper, trace (*Jour. A. M. A.*, Oct. 19, 1912, p. 1472).

Brown's Bronchial Troches. — Brown's Bronchial Troches, sold by John I. Brown, Boston, belong to the "cough lozenge" type of nostrum and are harmful only in a negative way in that they may be used to allay symptoms of what may prove to be an incipient lung or throat trouble of a serious nature. According to the analysis published in "Secret Remedies," vol. 2, these troches contain: powdered cubeb, extract of licorice, gum and sugar (*Jour. A. M. A.*, Oct. 19, 1912, p. 1472).

Antikamnia in America and Great Britain.—Examination in the A. M. A. Chemical Laboratory of a specimen of Antikamnia just received from London showed it to contain acetanilid but no acetphenetidin and thus to differ from the Antikamnia now sold in the United States which contains acetphenetidin but no acetanilid. This examination was made because the Antikamnia Chemical Company had claimed that the Antikamnia formula was the same for all countries and had threatened with suit for libel. While the protestation of the Antikamnia promoters probably indicates that the composition of the English Antikamnia will be changed in the near future a study of the Antikamnia advertisements in English medical journals shows that the British medical profession is not being apprised of the proposed change (*Jour. A. M. A.*, Oct. 26, 1912, p. 1550).

Dioradin Refused Recognition.—Dioradin was first submitted to the Council on Pharmacy and Chemistry in July, 1911. Because of the manifestly unwarranted claims made for its therapeutic value in the treatment of tuberculosis, the Council voted that the product be refused recognition without at that time considering the possible conflicts with other rules of the Council. Reform in the method of advertising having been promised by the American agent, the Council, when requested to give further consideration to Dioradin, considered the available evidence regarding the identity and value of the preparation. Examination of the evidence regarding the composition of Dioradin —claimed to consist of radium chlorid, iodoform and menthol in an ether-oil solution— showed serious discrepancies as to the amount of radium as well as to the identity and amounts of other constituents. It was further found that the experimental evidence was insufficient and biased. Then too, in view of the difficulty of judging the effects of medicines in tuberculosis, the clinical data were unconvincing. There was nothing to indicate that the reported improvements even if they occurred could be ascribed to the mixture as a whole rather than to any one of its constituents. As a result of the findings the Council voted that Dioradin be refused recognition (*Jour. A. M. A.*, Oct. 26, 1912, p. 1556).

Incompatibility of Sodium Acid Phosphate and Hexamethylenamin.—It has been found that when hexamethylenamin and sodium acid phosphate (sodium dihydrogen phosphate) are contained in a solution that decomposition gradually takes place. The hexamethylenamin is decomposed with liberation of formaldehyd, the ammonia set free at the same time neutralizes the acidity of the sodium acid phosphate. The same reaction takes place more slowly in the cold. Therefore the therapeutic effects of the two drugs are practically lost if such a solution is kept for any length of time (*Jour. A. M. A.*, Nov. 2, 1912, p. 1640).

Nostrums and the Medical Profession.—Samuel Hopkins Adams calls attention to an instance of the average practitioner's attitude towards "patent medicines." He states that a newspaper publisher who wanted to exclude all fraudulent or questionable advertising, on submitting an advertisement for Duffy's Malt Whiskey to four physicians for an opinion was advised that there was no reason why the advertisement should not be accepted. There is no excuse for members of the medical profession to plead either carelessness or ignorance in matters

of this sort. It is the business of physicians to be informed on such matters and they should know that unwarranted and dangerous claims are being made for Duffy's Malt Whiskey (*Jour. A. M. A.*, Nov. 2, 1912, p. 1640).

Acetylsalicylic Acid and Aspirin.—Examination reported in German pharmaceutical journals shows that acetylsalicylic acid manufactured by reliable firms is of good quality and equal in every way to that sold under the proprietary name "aspirin." Acetylsalicylic acid is a definite chemical and is the same, no matter who manufactures it. Because of the too great readiness with which patents are granted in the United States and because of the construction of our patent laws it has been possible for the Farbenfabriken of Elberfeld Company, which controls the trademark on the word aspirin, to obtain a patent in the United States on acetylsalicylic acid, thus securing a complete monopoly in this country. In view of the patent grant, which has been upheld by the courts, it is inadvisable to have anything to do with any other brand than that of the patentees (*Jour. A. M. A*, Nov. 2, 1912, p. 1642).

Aubergier's Syrup of Lactucarium.—Physicians have frequently wondered why they were unable to obtain from the Syrup Lactucarium, U. S. P., the therapeutic results which they were able to obtain from a proprietary product known as Aubergier's Syrup of Lactucarium, sold by Fougera & Co. at an exorbitant price and put on the market in patent medicine style. With the advent of the Food and Drugs Act the secret of the soporific effect of the Aubergier product was explained—the label on the bottle now declares it to contain morphin. One of the advantages claimed for ready-made prescriptions over the made-to-order variety or even over pharmacopeial preparations is that they are more elegant in appearance and less offensive to the nostrils and palate. This is the common experience of physicians who, having prescribed some ready-made mixture, wish to change the dose of one of the constituents and write a prescription or ask their pharmacist to prepare a similar preparation. As the proprietary did not have the composition declared on the label, a mixture based on the formula will differ more or less widely from the proprietary it is expected to resemble (*Jour. A. M. A.*, Nov. 9, 1912, p. 1732).

A Shot-Gun Prescription.—A prescription, recently written by a physician in a prominent eastern city, called for the following ingredients: cascara evacuant, strychnin sulphate, sodium bicarbonate, codein sulphate, caffein citrate, sodium salicylate, solution of potassium citrate, solution of iron and ammonium acetate. It is strange that in the light of our present knowledge, a physician would be guilty of writing such a prescription (*Jour. A. M. A.*, Nov. 9, 1912, p. 1733).

The Gullible Doctor.—Dr. J. E. Reeder, Dyersville, Iowa, deprecates that physicians heed the recommendations for proprietary preparations advanced by ignorant salesmen. It seems as if the average physician could not say "no" to these semi-patent medicine agents and this accounts for the number of thrifty proprietary houses which are supported by the "gullible doctor" (*Jour A. M. A.*, Nov. 9, 1912, p. 1733).

BOOK NOTICES

The Physician's Visiting-List for 1913. Sixty-second year. $1.25 net. Philadelphia: P. Blakiston's Son & Co.

This is a flexible leather bound book containing besides the customary blank pages for accounts and records, a table for calculating the period of gestation, incompatibility of drugs, treatment of poisoning, tables of weights and measures, treatment of asphyxia and apnea, and a complete dose-table.

Making Good on Private Duty. By Harriet Camp Lounsberry, R.N., President West Virginia State Nurses' Association. Philadelphia and London: J. B. Lippincott Company, 1912. Price, $1.

The ethics of private nursing, together with practical hints and suggestions furnish the bulk of the material presented in this book. How to get along with the patient, and her family, how to prepare food, with recipes; how to wash the baby, etc., are discussed. This is a very readable little book and is easily worth the price.

Mind Cure and Other Essays. By Philip Zenner, A.M., M.D., Cincinnati. $1.25 net. Stewart & Kidd Co., 1912.

Dr. Zenner is a pleasing author and is devoting his efforts to teaching public health. The essay on Mind Cure deals with mental poise and its effect in the treatment of disease. It also discusses the virtue and harmfulness of Christian Science, osteopathy, quackery, etc. The other essays are on Prevention of Nervous

Disease, Treatment and Prevention of Alcoholism, Social Diseases, Defectives, Medical Inspection of Schools and The School Physician, A School for Truancy, Eugenics and The History of a Book, all in Dr. Zenner's pleasant style and clear compelling diction.

THE SURGICAL CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago. Vol. 1, No. 5. October, 1912. Published bi-monthly. By W. B. Saunders Company, Philadelphia and London. Paper, $8; cloth, $12 per year.

Number five of the Surgical Clinics of John B. Murphy, for October, is out and is of the same high standard of excellence as its predecessors. Aside from special affections of the right humerus, left elbow, right hip joint, the work is devoted to troubles of the soft parts.

These works are valuable as showing the methods employed by this successful instructor, also they furnish a good record of actual cases occurring in his clinics and covered by his lectures, to which in many instances, is added an editor's note giving progress of case.

MUSCLE SPASM AND DEGENERATION in Intrathoracic Inflammation and Light Touch Palpation. By Francis Marion Pottenger, A.M., M.D., LL.D. Sixteen illustrations. St. Louis: C. V. Mosby Company, 1912. Price, $2.

The title of this book is unfortunate in that the true content and object is not suggested by it. Dr. Pottenger has worked out a theory of relation between muscular conditions and acute and chronic inflammatory conditions which others seemed to have confirmed, and which must if ultimately adopted be of inestimable value in physical diagnosis, especially in the diagnosis of tuberculosis. This theory and its practical application are clearly and concisely set forth, and are worthy of more than passing attention by all physicians doing much physical diagnosis in relation to the chest.

A TEXT-BOOK ON THE PRACTICE OF GYNECOLOGY. For Practitioners and Students. By W. Easterly Ashton, M.D., LL.D., Professor of Gynecology in the Medico-Chirurgical College of Philadelphia. Fifth edition, thoroughly revised. Octavo of 1,100 pages, with 1,050 original line-drawings. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, $6.50 net; Half Morocco, $8 net.

This book is very thorough. Not only will the student find that which he wants, but the practitioner will find what he needs. No gynecologic subject is too great nor is detail too small, to receive attention in this work. From the simplest vulvitis to the most complicated hysterectomy, the searcher will find the field covered with great care, and much minuteness. In both text and illustration, clearness of diction and engraving are marked features.

The plan of the work begins with the vulva and extends up through the entire genital tract, describing with clearness, all affections of each part successively, then general conditions are taken up, asepsis and hospitals are discussed, general operative technic given, and many special and major operations described. Also the possible complications and methods of meeting them, including intestinal anastomosis, receive attention.

Complete description, both in text and engraving, is given of the major gynecologic operations; instance: hysterectomy, both vaginal and abdominal, including the complications that may arise as resections of intestines, appendectomy, etc. To the kidney and the technic of nephrorrhaphy, a final chapter is devoted.

INTERNAL MEDICINE. By David Bovaird, Jr., A.B., M.D., Assistant Professor of Clinical Medicine in the College of Physicians and Surgeons of Columbia University; Associate Visiting Physician of the Presbyterian Hospital, and Visiting Physician of the Seaside Hospital, in the City of New York. With 109 illustrations in the text and 7 colored plates. Philadelphia and London: J. B. Lippincott Company. Price, $5.

The arrangement and scheme of this work will appeal to students and practitioners in search of quick information. It is without long pages of discussions and opinions, and at the same time explicit enough to be clear and comprehensive. The book is not an exhaustive treatise but a clear and somewhat dogmatic statement of facts and in some instances what its author conceived to be facts. Some apparently positive statements are thus made of conditions that are not as yet absolutely proven (an uavoidable sacrifice to brevity). The book will be very useful to students and as a ready reference for busy practitioners.

A TEXT-BOOK OF OBSTETRICS. Including Related Gynecologic Operations. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania. Seventh revised edition. Octavo of 1,013 pages, with 895 illustrations, 53 of them in color. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, $5 net; Half Morocco, $6.50 net.

The policy of treating with obstetrics not only the physiology and pathology leading to it and of pregnancy, but also the allied diseases and gynecologic conditions growing therefrom,

has been continued by Hirst in this seventh edition. This position is sound and in growing favor with medical men the world over. From anatomy, examinations, insemination, fetal development, maternal changes in pregnancy, labor and the puerperium, the author passes to abnormal conditions, obstetric operations, and the new-born infant.

Much formerly considered in the domain of gynecology, is treated in this book. Perineal and cervical lacerations, and all pathologic conditions of the genital tract, both immediate and remote are treated. The surgical treatment of affections of the mammary glands, plastic operations on the uterus and its appendages, also radical measures for removal of same with careful description of technic, in fact everything immediately or remotely growing out of the pregnant condition, is interestingly, and the reviewer believes properly given place in this very useful book.

With hospital facilities so generally distributed, the time is fast approaching when the general practitioner will be not only his own obstetrician, but gynecologist as well, doing his own surgery, seeking aid only when needed in his most difficult and important cases.

A Treatise on Fractures and Dislocations. By Lewis A. Stimson, B.A., M.D., LL.D., Professor of Surgery in Cornell University Medical College, New York. New (7th) edition, thoroughly revised. Octavo, 930 pages, with 459 engravings and 39 plates. Cloth, $5 net. Lea & Febiger, Publishers, Philadelphia and New York, 1912.

The great impetus given the study of injuries to the Oseous System, Fractures and Dislocations, by *x*-ray illumination, thus enabling an approach to exact diagnosis in this field corresponding to that already achieved in other regions, has stimulated an amount of study on this line that bids fair to place bone surgery and especially the treatment of fractures and dislocations at par, scientifically, with the treatment of injuries and diseased conditions in other parts of the body.

We may, therefore, confidently look to the near future for better results and less legal complications following our efforts than have followed in the past, before the light of positive knowledge was thrown on this dark territory by the all revealing illumination of the effulgent *x*-ray.

This has stimulated all to a deeper study and better exposition of the mechanics of bone injuries. The rapid increase of our knowledge is shown by the fact that Stimson has recognized a field for this seventh edition within two short years after the appearance of the sixth.

The protection afforded their members by State Societies in cases of Civil Malpractice when invoked, has been, in more than 50 per cent. of all cases, from unsatisfactory results in the treatment of fractures and dislocations, and based on the broad principle of law, that entitles the patient to the full benefits of the ordinary skill and knowledge that is possessed by practitioners in his immediate vicinity or community. That this ordinary knowledge and skill has been below what it should be, is evidenced by the large percentage of legal complications growing out of fracture and dislocation cases. Stimson and others are doing a great work and putting forth a strong effort to correct this. It now behooves the general practitioner to avail himself of this common knowledge so interestingly, invitingly and lavishly placed before him. In this way will he help to lessen the number of malpractice suits and at the same time increase his personal and financial balance. The present edition of Stimson maintains the former high standard, is embellished by numerous beautiful *x*-ray engravings, and cannot fail to be of more than ordinary service to those studying in this line.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.,

of Journal of Michigan State Medical Society, published monthly at Battle Creek, Mich., required by the Act of August 24, 1912.

Note.—This statement is to be made in duplicate, both copies to be delivered by the publisher to the postmaster, who will send one copy to the Third Assistant Postmaster General (Division of Classification), Washington, D. C., and retain the other in the files of the postoffice.

NAME OF POSTOFFICE ADDRESS

Editor—Wilfrid Haughey, M.D. . . . . Battle Creek, Mich.

Managing Editor—Wilfrid Haughey, M.D. . . . . Battle Creek, Mich.

Business Manager—Wilfrid Haughey, M.D. . . . . Battle Creek, Mich.

Publisher—Michigan State Medical Society . . . . . Battle Creek, Mich.

Owners: (If a corporation, give names and addresses of stockholders holding 1 per cent. or more of total amount of stock.)

Michigan State Medical Society . . . . . Battle Creek, Mich.

Known bondholders, mortgagees and other security holders, holding 1 per cent. or more of total amount of bonds, mortgages or other securities: None.

Wilfrid Haughey, Editor.

Sworn to and subscribed before me this 28th day of September, 1912.

J. Lyman Reade.
[SEAL] Notary Public.
(My commission expires Nov. 15, 1915.)

OFFICERS OF THE SOCIETY

1912-1913

President, WALTER H. SAWYER.....Hillsdale
First Vice-President, D. G. COOK.....Holland
Second Vice-President, J. F. DENSLOW.....Muskegon
Third Vice-President, SAMUEL OSBORN.....Lansing
Fourth Vice-Pres., C. E. HOLDSWORTH....Traverse City
Secretary, WILFRID HAUGHEY.....Battle Creek
Treasurer, W. A. STONE.....Kalamazoo
Editor, WILFRID HAUGHEY.....Battle Creek

OFFICERS OF SECTIONS

General Medicine

JAMES CLELLAND, JR., Chairman.....Detroit
B. A. SHEPARD, Secretary.....Kalamazoo

Surgery

H. B. GARNER, Chairman.....Detroit
RAY C. STONE, Secretary.....Battle Creek

Gynecology and Obstetrics

ERNEST K. CULLEN, Chairman.....Detroit
WALTER MANTON, Secretary.....Detroit

Ophthalmology and Oto-Laryngology

EUGENE SMITH, Chairman.....Detroit
H. BEACH MORSE, Secretary.....Bay City

County Secretaries Association

President, CHARLES E. BOYS.....Kalamazoo
Vice-President, G. M. LIVINGSTON.....Manistique
Secretary, C. T. SOUTHWORTH.....Monroe

Delegates to the American Medical Association

E. T ABRAMS, term expires 1913.....Dollar Bay
STATE SECRETARY, term expires 1913.
L. J. HIRSCHMAN, term expires 1914.....Detroit
C. E. BOYS, term expires 1914.....Kalamazoo

Alternates

A. D. HOLMES, term expires 1913.....Detroit
A. W. HEWLETT, term expires 1913.....Ann Arbor
H. J. KINNE, term expires 1914.....Frankfort
H. E. RANDALL, term expires 1914.....Flint

THE COUNCIL

	Term Expires	
A. P. BIDDLE, 1st Dist.	1915	Detroit
A. E. BULSON, V.-Chairman, 2d Dist.	1913	Jackson
A. S. KIMBALL, 3d Dist.	1915	Battle Creek
A. H. ROCKWELL, 4th Dist.	1917	Kalamazoo
W. J. DUBOIS, 5th District	1917	Grand Rapids
A. M. HUME, 6th Dist.	1915	Owosso
W. J. KAY, 7th Dist.	1917	Lapeer
A. L. SEELEY, 8th Dist.	1913	Mayville
B. H. McMULLEN, 9th Dist.	1913	Cadillac
C. H. BAKER, 10th Dist.	1917	Bay City
W. T. DODGE, Chairman, 11th Dist.	1915	Big Rapids
C. J. ENNIS, 12th Dist.	1913	St. Ste. Marie
F. C. WITTER, 13th Dist.	1915	Petoskey
C. T. SOUTHWORTH, 14th Dist.	1917	Monroe

WALTER H. SAWYER, Ex-Officio.....Hillsdale
WILFRID HAUGHEY, Sec., Ex-Officio.....Battle Creek
FIRST DISTRICT—Macomb, Oakland, Wayne.
SECOND DISTRICT—Hillsdale, Ingham, Jackson.
THIRD DISTRICT—Branch, Calhoun, Eaton, St. Joseph.
FOURTH DISTRICT—Allegan, Berrien, Cass, Kalamazoo, Van Buren.
FIFTH DISTRICT—Barry, Ionia, Kent, Ottawa.
SIXTH DISTRICT—Clinton, Genesee, Livingston, Shiawassee.
SEVENTH DISTRICT—Huron, Lapeer, Sanilac, St. Clair.
EIGHTH DISTRICT — Gratiot, Isabella-Clare, Midland, Saginaw, Tuscola and (Gladwin unattached).
NINTH DISTRICT — Benzie, Grand Traverse-Leelanaw, Manistee, Mason, Tri (Kalkaska, Missaukee, Wexford).
TENTH DISTRICT — Bay (including Arenac and Iosco), O. M. C. O. R. O. (Otsego, Montmorency, Crawford, Oscoda, Roscommon and Ogemaw combined).
ELEVENTH DISTRICT—Mecosta, Mountcalm, Muskegon-Oceana, Newaygo, Osceola-Lake.
TWELFTH DISTRICT — Chippewa (including Luce and Mackinaw), Delta, Dickinson-Iron, Gogebic, Houghton (including Baraga and Keweenaw), Ontonagon, Marquette-Alger, Menominee, Schoolcraft.
THIRTEENTH DISTRICT — Alpena (including Alcona), Antrim, Charlevoix, Cheboygan, Emmet, Presque Isle.
FOURTEENTH DISTRICT—Lenawee, Monroe, Washtenaw.

Michigan Member of National Legislative Council, American Medical Association

EDWARD T. ABRAMS.....Dollar Bay

PERMANENT COMMITTEES

On Scientific Work

WALTER H. SAWYER, Chairman.....Hillsdale
WILFRID HAUGHEY, Secretary.....Battle Creek
JAMES CLELLAND, JR.....Detroit
H. B. GARNER.....Detroit
ERNEST K. CULLEN.....Detroit
EUGENE SMITH.....Detroit
B. A. SHEPARD.....Kalamazoo
RAY C. STONE.....Battle Creek
WALTER MANTON.....Detroit
H. BEACH MORSE.....Bay City

On Arrangements

H. E. RANDALL, Chairman.....Flint
C. B. BURR.....Flint
J. G. R. MANWARING.....Flint
H. A. STEWART.....Flint
W. G. BIRD.....Flint

On Exhibits

J. G. R. MANWARING, until 1915, Chairman.....Flint
FRANK B. MARSHALL, until 1914.....Muskegon
GUY H. McFALL, until 1913.....Detroit

On Medical Education

DAVID INGLIS, until 1913, Chairman.....Detroit
A. M. BARRETT, until 1915.....Ann Arbor

On Legislation and Public Policy

EDWARD T. ABRAMS, Chairman.....Dollar Bay
A. M. HUME.....Owosso
GUY L. KIEFER.....Detroit

MEDICOLEGAL COMMITTEE

General Attorneys: BOWEN, DOUGLAS, EAMAN and BARBOUR, 1101-1108 Ford Bldg., Detroit.

Executive Board

F. B. TIBBALS, Chairman, until 1916.....
101 Fort St., W.....Detroit
C. B. STOCKWELL, until 1915.....Port Huron
E. C. TAYLOR, until 1914.....Jackson
C. W. HITCHCOCK, until 1913.....Detroit
ANGUS McLEAN, until 1917.....Detroit

SPECIAL COMMITTEES

To Encourage the Systematic Examination of the Eyes and Ears of School Children Throughout the State

WALTER R. PARKER, Chairman.....Detroit
C. H. BAKER.....Bay City
WILFRID HAUGHEY.....Battle Creek

On Venereal Prophylaxis

A. P. BIDDLE, Chairman.....Detroit
W. E. BLODGETT.....Detroit
C. E. HOOKER.....Grand Rapids

On Tuberculosis

C. H. JOHNSTON, Chairman.....Grand Rapids
A. W. CRANE.....Kalamazoo
E. L. SHURLY.....Detroit
P. M. HICKEY.....Detroit
FREDERICK R. WALDRON.....Ann Arbor
T. M. KOON.....Grand Rapids
V. C. VAUGHAN, JR.....Detroit

On Public Health Education

FRANCES A. RUTHERFORD, Chairman....Grand Rapids
JEANNIE C. SOLIS.....Ann Arbor
ANNA O'DELL.....Detroit
BLANCH N. EPLER.....Kalamazoo
CLARA DAVIS.....Lansing

On Fee Splitting

C. B. STOCKWELL, Chairman.....Port Huron
J. G. R. MANWARING.....Flint
SCHUYLER C. GRAVES.....Grand Rapids

To Study the Relations and Qualifications of Specialists

EMIL AMBERG, Chairman.....Detroit
C. B. BURR.....Flint
F. W. ROBBINS.....Detroit

INDEX

VOLUME XI

January to December, 1912

O. Original Article. Ed. Editorial. Ab. Abstract. Mis. Miscellaneous.

A

PAGE

Abdominal Ascites, Treatment of. W. J. Wilson, Jr. O. 633
Abscess, Frontal Lobe. Don M. Campbell. O. 769
Acute Heart Failure. Eugene Boise. O. 757
Adenoids in Infancy. Ab. 755
—The Etiology of. Ed. 196
Advances in Obstetrics. Ed. 667
Advice. J. D. Dunlop. O. 626
Alpena Medical News. Ed. 47
Ambiguity, An. Ed. 732
Ambulatory Treatment of Fractures of Bones of the Lower Extremities. Ab. 459
American Medical Association Meeting at Atlantic City. Ed. 238
—Report of 440
American Medical Teaching, Impressions of. Mis. 709
American Proctological Association 601
Anaphylaxis and Its Relation to Immunity and Disease 809
Anesthesia, Nitrous Oxid-Oxygen. Richard R. Smith and Reuben Maurits. O. 151
Anesthetic, Choice of. Ab. 137
Annual Dues for 1912. Ed. 237
Anorectal Disease Due to Venereal Infection. Ab. 601
Antrum of Highmore, Chronic Suppuration of the. Its Cure by Resection of the Nasal Wall. Otto T. Freer. O. 617
Aphasia. Charles W. Hitchcock. O. 697
Appendix, Primary Hyperplastic Tuberculosis of the. Alexander W. Blain. O. 614
Appointments. Ed. 240
Arterial Pressure, High. Ab. 464
Association of Resident Physicians of St. Mary's Hospital 208
Attendance on Indigent Persons for Which Compensation May be Had. Mis. 679
Auto-Inoculation in Tuberculosis. Ed. 735
Auto-Intoxication. Benjamin A. Shepard. O. 354

B

Bay County Medical Society, President's Annual Address. Ab. 198
Blood-Vessel Surgery, The History of, and Transplantation of Organs. Ab. 538
Books received 756
BOOK REVIEWS
Adami, J. George. A Text-Book of Pathology 681
Anders, James M. A Text-Book of the Practice of Medicine 71
Archinard, P. E. Microscopy Bacteriology and Human Parasitology 316
Ashton, Easterly W. A Text-Book on the Practice of Gynecology 820
Blair, Thomas. Blair's Pocket Therapeutics. 255
Blakiston's, P., Son & Co. The Physician's Visiting List for 1912 70
—The Physician's Visiting List for 1913 .. 819
Bovaird, David, Jr. Internal Medicine 820
Browning, C. H. Recent Methods in the Diagnosis and Treatment of Syphilis ... 317
Cabot, Richard C. Differential Diagnosis. 606
Cattell, Henry W. International Clinics 254, 317 608
Citron, Julius. Immunity: Methods of Diagnosis and Therapy and Their Practical Application 606
Coplin, W. M. Manual of Pathology, Including Bacteriology 71
Cushing, Harvey. The Pituitary Body and Its Disorders 756
Dayton, Hughes. The Practice of Medicine. 681
DeLarme, M. F. A Manual of Pharmacy .. 681
Doncaster, L. Heredity in the Light of Recent Research 543
Gardner, William Sisson. A Text-Book of Gynecology 544
Grulee, Clifford G. Infant-Feeding 682
Guenther, A. E. Physiology 317
Hare, Hobart Amory. Progressive Medicine 210, 316, 607, 755
Head, G. P. The Practical Medicine Series 71, 318, 608, 680
Hertzler, Arthur E. A Treatise on Tumors. 543
Hirsch, Charles S. Genito-Urinary Diseases and Syphilis 254
Hirst, Barton Cooke. A Text-Book of Obstetrics 820
Holmes, Bayard. Friends of the Insane, and Other Essays 544
Interstate Medical Journal Co. Recent Studies of Syphilis 70
Kanavel, Allen B. Infections of the Hand. 254
Kelly, A. O. J. A Handbook of Practical Treatment 318
Kelly, Howard A. Cyclopedia of American Medical Biography 607
Lea & Febiger. The Practitioner's Visiting List for 1912 70
Lee, Frederic S. Scientific Features of Modern Medicine 318
Lounsberry, Harriet Camp. Making Good on Private Duty 819
Lydston, G. Frank. Sex Hygiene for the Male and What to Say to the Boy 543
Martin, J. M. Practical Electrotherapeutics and X-Ray Therapy 253
Massachusetts State Board of Health. Infantile Paralysis in Massacusetts During 1910. 543
Mayo, William J. A Collection of Papers. 607
McCrae, John. A Text-Book of Pathology. 681
Montgomery, E. E. Practical Gynecology. 255
Murphy, John B. The Surgical Clinics of. 317, 543, 682, 756, 820
Musser, John H. A Handbook of Practical Treatment 318
Myer, Jesse S. Life and Letters of Dr. William Beaumont 756
Myers, Charles S. Experimental Psychology 544
Peterson, Frederick. Nervous and Mental Diseases 317
Pickett, Montgomery. The Fourth Physician 70
Pottenger, Francis Marion. Muscle Spasm and Degeneration in Intrathoracic Inflammation and Light Touch Palpation 820
Potts, Charles S. Electricity: Its Medical and Surgical Application 70

PAGE

Book Reviews—Continued
Puckner, W. A. Reports of the Chemical Laboratory of the American Medical Association 316
Pusey, William Allen. The Care of the Skin and Hair 682
Roberts, Stewart R. Pellagra..... 608
Robinson, Victor. An Essay on Hasheesh.. 681
Sadler, William L. The Physiology of Faith and Fear, or the Mind in Health and Disease 680
Saunders Co., W. B. Illustrated Catalogue. 316
Savage, G. C. Ophthalmic Myology..... 544
Schamberg, Jay Frank. Diseases of the Skin and the Eruptive Fevers..... 253
Scudder, Charles L. Tumors of the Jaw.... 544
Simon, Charles E. A Manual of Clinical Diagnosis by Means of Laboratory Methods 254
Stimson, Lewis A. A Treatise on Fractures and Dislocations 821
Taylor, Alonzo Engelbert. Digestion and Metabolism 607
Taylor, J. J The Taylor Pocket-Case Record. 318
Thornton, E. Quin. A Pocket Formulary... 543
Walsh, James J. Psychotherapy..... 680
Warfield, Louis M. Arteriosclerosis..... 682
Williams, E. J. C. and B. G. R. Laboratory Methods 607
Zenner, Philip. Mind Cure and Other Essays. 819
Breast-Feeding, Some Observations Upon a Few Phases of. Ab..... 63

C

Cesarean Section the Second Time in Two Cases. J. H. Carstens. O..... 96
Caloric Method in Infant-Feeding. Ed..... 239
Cancer of the Uterus, A Study of 212 Cases of, with Special Reference to Early Diagnosis. George Kamperman. O..... 582
Carbohydrates in the Digestion of Infancy, The Status of the. David J. Levy. O... 16
Cardiospasm. W. H. Enders. O..... 84
Cardiovascular Diseases, Prophylaxis and Management of. M. A. Mortensen. O..... 402
Change of Date of Annual Meeting. Ed..... 293
Chronic Appendicitis and Indigestion. Ab.... 302
—Diarrhea as a Surgical Symptom. Louis J. Hirschman. O..... 783
Clearer Diagnosis and Simpler Treatment. Lucy N. Eames. O..... 336
Clinical Laboratory Methods, The Limitations of. Ab..... 204
—Examinations, Fees for. Ab..... 203
Colonic Constipation, The Surgery of. Ab.... 601
Coloptotic Constipation. Louis J. Hirschman. O. 161
Colpotomy, Unnecessary. John J. Reycraft. O. 226
Combined Scientific and Literary Course Preliminary to the Study of Medicine, A Plea for a. Charles L. Girard O..... 609
Conference, The, of State Society Secretaries. Editorial 802

COMMUNICATIONS:

Advertising 253
Avery, John 600
Baker, Charles H..... 310
Bulson, A. E..... 310
Carstens, J. H..... 310
Crile, G. W..... 600
Dearholt, H. E..... 69
Dioradin Co. 470
Dixon, R. L.....253, 600
Dodge, W. T..... 310
Fairplay 150
Freer, Otto 600
Harison, B. D..... 310
Hitchcock, Charles W..... 748
Holmes, Arthur D..... 310
McCaskey, G. W..... 600
Medical Legislation 470
Probert, C. C..... 515
Rich, Herbert M..... 310
Rutherford, Frances A..... 150
Sawyer, Walter H..... 310
Shurly, E. L..... 310
Stapleton, William J., Jr..... 600
Tibbals, Frank Burr..... 310
Welsh, D. Emmett..... 310
Constipation in the Infant; Its Causes and Treatment. C. G. Grulee. O..... 500
Convulsions, The Relation of, in Children to Dietary Errors. John B. Jackson. O.... 710
Council on Health and Public Instruction. Ed. 362
Council on Pharmacy and Chemistry. Ed..295 360

COUNTY SOCIETY NEWS

Alpena....50, 135, 241, 298, 382, 448, 537 602
Antrim-Charlevoix 241
Bay.....50, 198, 299, 448 537
Berrien 200 241
Calhoun 242, 300 449
Calhoun County Bar Association..... 385
Clinton 449 807
County Secretaries Association, Fourth Annual Meeting of the..... 533
Delta 136
Eaton 385
Genesee.....242, 300, 385, 538, 674 807
Grand Traverse 52, 200, 242, 386, 450, 540, 739 807
Gratiot 137 300
Hillsdale 450
Houghton 387
Huron 137
Ingham 201 393
Isabella-Clare 52
Jackson 137
Kalamazoo Academy of Medicine.....52, 137, 202, 243, 300, 394, 449, 539, 674, 739, 805
Kent 54, 138 741
Lenawee.....139, 203, 244, 301 540
Marquette 139
Mecosta 139
Menominee 140
Muskegon-Oceana.....58, 140, 202, 244, 301 395
Oakland 602 742
O. M. C. O. R. O..... 203
Ottawa 59
St. Clair 141
Sanilac 451
St. Joseph 203
Tri-County 141
Tuscola 59 807
Upper Peninsula 602
Wayne.60, 142, 203, 245, 302, 396, 459, 742 808

D

DEATHS

Barrett, Darius N..... 241
Burdick, William A..... 128
Campbell, Oliver B..... 804
Catlin, Samuel 296
Close, Edward R..... 128
Ely, Edwin R..... 296
Fleckenstein, Louis 49
Flintermann, Johann 128
Foster, Joseph 671
Fuerbringer, G. H..... 128
Gallery, John M..... 296
Grace, James T..... 737
Graham, Frank W..... 128
Hamlen, William I..... 804
Heysett, E. Nelson..... 296
Jenkins, Charles G..... 671
Lansing, Richard R..... 737
Martin, A. W..... 362
Marvin, Henry M..... 671
McEntee, James 241
Parkin, Robert L..... 671
Pitcher, Festus F..... 804
Root, William W..... 362
Sleneau, Talbert 362
Spencer, C. E..... 362
Steele, Charles M..... 128
Vincent, Dresser B..... 296
Walker, Henry O..... 296
Willson, James C..... 671
Wilson, Albert S..... 296
Young, Raymond A..... 804

PAGE
Department, A New. Ed. 431
—of Health, A. Ed. 802
Detroit Academy of Medicine. 136 384
Detroit Oto-Laryngological Society. 208, 250, 306 385
Diabetes, The Dietetic Management of. M. A. Mortensen. O. 22
Diagnosis in Infant-Feeding. Ed. 593
Diarrhea, Chronic, as a Surgical Symptom... Louis J. Hirschman, O. 783
Dietetics, An Excursion in. Ab. 245
Dioradin, The Radium Content of. Ed. 358
Diphtheria Bacilli Carriers, The Treatment of. M. L. Holm. O. 327
Dues. Ed. 732
—and Subscriptions 47

E

Eclampsia. James J. Lyon. O. 280
—Treatment of, by Vaginal Cesarean Section. R. Genung Leland. O. 282
Ectopic Gestation. I. N. Brainard. O. 287
Editorial Collaborators. Ed. 126
Efficiency of the Heart, Clinical and Instrumental Methods of Estimating the. Hugo A. Freund. O. 571
Ab. 305
Emergency Cases—the Attitude of the Pharmacist and the Physician. Ab. 398 399
Enucleation, Indications for. Calvin R. Elwood. O. 658
Epilepsy, What Is? Carl D. Camp. O. 551
Errata Ed. 196
Erysipelas. Andrew P. Biddle. O. 273
—Symptoms, Etiology and Pathology. Charles E. Hooker. O. 267

ETHICS. ED.
I. Seven Years' Work 48
II. Augean Stables and Advertising 126
III. The Tongue 194
IV. Contract Practice 238
V. Hang Together 294
VI. Secret Division of Fees 360
VII. Public Health Conservation 431
VIII. Prostituting the Profession 510
IX. The College Training 595
Exophthalmic Goiter. Ab. 51

F

Fat in the Diet, The General Use of. James E. Davis. O. 11
Federation of State Medical Licensing Boards, A New. Ed. 293
Fee-Splitting and Commission Business, Ethics —Its Application to. Theodore A. McGraw. O. 794
—Symposium on. Wayne County Medical Society 794
Finger-Piece Eyeglass Mountings. Mis. 315
Fire-Arms and the General Public. Ed. 669
Forty-Seventh Annual Meeting. Ed. 194 430
Fractures, Treatment of. C. H. Sample. O. .. 211
—The Operative Treatment of. Ab. 460
—The Operative Treatment of. George H. Palmerlee. O. 778
Frontal Lobe Abscess. Albert E. Halstead, Roger T. Vaughan. O. 73
—Lobe Abscess. Don M. Campbell. O. 769

G

Gastro-Intestinal Tract, Roentgen Examination of the. Ab. 249
Gastric Motor Insfficiency. Ab. 539
Goiter Operation, Prognosis in. Ab. 810
Gonorrhea, The Modern Treatment of. Ab. 50
Gonorrheal Rheumatism, The Management of. Frederick M. Hartsock and James L. Robinson. O. 773

PAGE

H

Hand Knowledge: Its Results and Possibilities for Acquirement. H. L. Simpson. O. 704
Heart Failure, Acute. Eugene Boise. O. 757
Hemorrhage of the New-Born, The Etiology of, with Report of a Case. L. W. Haynes. O. 498
Hernias, Principles for the Cure and Treatment of. H. E. Randall. O. 100
Hormones—The Action of Peristaltic Hormone on the Intestinal Peristalsis. Ab. 142
How Will They Vote? Ed. 594

I

Ileus. Ab. 304
Immigration and the Insane. Ed. 196
Infant-Feeding Problem, Some of the Facts in the. Ab. 394
—Problems in. Ab. 53
Infant-Welfare Movement. Ab. 145
Infantile Scurvy. Ed. 735
Interrelations of Medicine, Some of the. Ab.. 396
Intestinal Paresis, Acute Postoperative. Ab.. 602

J

Journal Improvement Suggestions. Ed. 733

K

Kidney Lesion, The Newer Methods of Diagnosis of. G. Van Amber Brown. O. 420
—The Functional Test in Surgical Disease of the. Ernest K. Cullen. O. 725
Kidneys and Colon, Surgery of Displacements of the. H. W. Longyear. O. 115

L

Leprosy in Michigan. Ed. 359
Liver, Cirrhosis of the. I. M. J. Hotvedt. O. 715
Lues, Past and Present. N. DeHaas. O. 123

M

Management, The, of Gonorrheal Rheumatism. Frederick M. Hartsock and James L. Robinson. O. 773
Mastoid Operation, Some Aspects of the. Ab. 208
Maxillary Sinusiti. Benton N. Colver. O. 558
Measles, Etiology of. Ab. 714
Medical Antiquity, A Peep into. N. H. Kassabian. O. 344
—Defense. Ed. 430
—Defense. Mis. 814
—Freedom 150
—Freedom, The National League for. Ed. 670
—Graft, Clearing Our Skirts of the Suspicion of. C. M. Williams. O. 342
—Jurisprudence, The Duties of Counsel in Cases Involving Questions of. Ab. 383
—Jurisprudence Relating to Degeneracy. Ab. 383
—Milk Commissions. Ed. 433
Medicolegal—Unrecognized Fracture of Femur. 751
Michigan Health Officers Association 206
Michigan's Midwife Problem. Walter E. Welz. O. 788
Michigan State Board of Health. Mis. 806
Michigan State Board of Registration in Medicine 72, 232, 485, 515, 665
MICHIGAN STATE MEDICAL SOCIETY
—Constitution and By-Laws 259
—Forty-Seventh Annual Meeting. Ed. .. 237, 512
—Members in Arrears 323
—Minutes of Meeting of Council 129
—Preliminary Program of the Forty-Seventh Annual Meeting held in Muskegon 308
—President's Address. D. Emmett Welsh. O. 472
—Proceedings of the Forty-Seventh Annual Meeting of the 516
—Program of the Forty-Seventh Annual Meeting of 436
—Report of Medicolegal Committee 134
—Secretary's Financial Report for the Year 1912 133

PAGE
—Early History of. Ed. 803
Michigan State Sanatorium, Results of Treatment at the. E. B. Pierce. O. 189
Midwife Problem, Michigan's. Walter E. Welz. O. 788
Modern Quarantine. Ed. 733
Muskegon, Michigan. Mis. 363
Myxosarcoma of the Knee, Traumatic, Simulating Tuberculosis of the Joint. F. C. Witter. O. 566

N

Nervous Diseases, Disturbance of Function of the Ear, Nose and Throat in. Carl D. Camp. O. 216
New and Nonofficial Remedies. 255, 319, 400, 540, 604, 675, 745, 816
New-Born, Fever of the. Eugene Boise. O. 166
News. 69, 148, 209, 251, 307, 399, 466, 514, 600, 672, 737. 804

O

Obstetrical Conscience, The Need of a Better Developed. Charles E. Boys. O. 40
Obstetrics and Gynecology, Pituitary Extract in. A. W. Lescohier and O. E. Closson. O. 650
Ocular Disorders as Symptoms of Systemic Disease. Ab. 201
On Enucleation of Tonsils. Ed. 669
Open-Air Schools. Mis. 714
Operative Treatment of Fractures, The. George H. Palmerlee. O. 778
Our Advertisers. Ed. 240
Our New Section. Robert W. Gillman. O. 555
Owen Bill and the Pure Food and Drugs Act, The. Ed. 597
Ozone. Ab. 147

P

Pain of Labor, The Use of Pantopon in Controlling the. Ab. 248
Panoptosis. Ab. 53
Paroxysmal Tachycardia, Supplementary Note on the Treatment of. Ab. 246
Pellagra, A Case of. L. W. Keyes. O. 231
Pelvic Tumors, Some of the Complications of, with Especial Reference to the Diagnosis. Ab. 244
Perforating Gastric Ulcer, with Report of Six Cases. Ab. 248
Pernicious Anemia. Burton R. Corbus. O. 89
—Some Observations on. Ab. 463
Physician, Family, Honorable Position for the, to Asume. Charles G. Jennings. O. 795
—Family, The Effect of Fee-Splitting Upon. Harold Wilson. O. 797
Physicians, Remuneration of. John L. Irwin. O. 428
Physostigmin Combined with Morphin in the Treatment of Pain Following Abdominal Operations. Benjamin R. Schenck. O. 156
Plastic Surgery of the Bones, Recent Advances in. John B. Roberts. O. 545
Poliomyelitis. Ed. 733
Postoperative Hernia. Ab. 709
Pre-Eclamptic Toxemia. Walter E. Welz. O. 410
—Ab. 247
Pregnant Uterus, Roentgenologic Examination of the. P. M. Hickey. O. 34
Preserving Transparent Specimens, A New Method of. Ab. 466
Prostatic Dysuria, The Choice of Operation for the Relief of, and the Preliminary Treatment. Paul M. Pilcher. O. 3
Public Health and the Conventions. Ed. 594
—As a Problem of the People. Ab. 52
—Education Committee Work Planned by the 673
Puerperal Eclampsia, Treatment of. A. Leenhouts. O. 416
—Infections. A. S. Wheelock. O. 170
Pulmonary Hemorrhage, Treatment of. Ab. 808
Pure Food. Ed. 432
Pus Infections, Saturated Solution of Epsom Salts in the Treatment of. Ab. 201

R

PAGE
Rectal Diseases, Office Management of. James A. McVeigh. O. 182
—Surgery, A Review of Four Hundred Cases of. Ab. 67
Reflex Nasal Neuroses. Ab. 394
Relation of Anaphylaxis to the Infectious Diseases. Ab. 696
Renal Surgery, General Considerations of. George C. Hafford. O. 106
—Tuberculosis. Frederick W. Robbins. O. 109
Results of Autopsy, Attending Physician Testifying to. Mis. 678
Résumé of a Year's Surgical Work. Ab. 303
Revision of Materia Medica Courses. Ed. 126
Rheumatism, Gonorrheal, The Management of. Frederick M. Hartsock and James L. Robinson. O. 773
Roentgen Ray as a Therapeutic Agent, Résumé of Twelve Years' Experience with the. H. R. Varney. O. 29

S

Salivary Duct, Concretions in the, with Report of Case. Ab. 68
Salvarsan, The Use of, in Interstitial Keratitis, Report of Ten Cases. Walter R. Parker. O. 637
Sawyer, Walter H., President-Elect. 510
"606," The Present Status of. Ab. 60
Specialties, The Study and Control of the. Ed. 803
St. Mary's Hospital Medical Board, Scientific Meeting 451
State Secretaries, Conference of. Mis. 813
Sterilization of Criminals and Insane. Ed. 736
Stricture, Some Things to be Remembered in the Management of. Arthur Eddy West. O. 175
Subconscious, The, and Some Phases of Mental Healing. Ab. 204
Suggestions to Authors. Ed. 514
Suprapubic Cystotomy, A New Instrument for. Angus McLean. O. 83
Surgeon, Why Is the, Importuned by the Family Physician to Charge a Fee? Walter P. Manton. O. 796
Surgeon's Standpoint, Fee-Splitting from the. Frederick W. Robbins. O. 798
Surgery to Medicine, The Relation of. Frank Burr Tibbals. O. 36
Surgical Work, A Résumé of a Year's. Angus McLean and Clark D. Brooks. O. 504
Syphilitic Bone Disease. Ab. 457

T

The English Insurance Act. Ed. 668
The Journal a Forum. Ed. 293
The Fourth of July in 1912. Ed. 670
Thyroid, Disease of the. Charles H. Mayo. O. 1
Tonsil, The Surgical, with a Discussion of the Indications and Technic Required for Enucleation. B. R. Shurly. O. 646
Toxemias of Pregnancy, The Nature, Symptoms and Treatment of the. J. B. Whinery. O. 641
Transfusion of Blood, the Direct, with the Report of Two Cases. Alexander Mackenzie Campbell. O. 627
Trifacial Neuralgia, The Treatment of, by Deep Alcoholic Injections. Frank Burr Tibbals. O. 233
Truth About Medicines, The. 433, 542, 604, 675, 749, 817
Tuberculin Therapy—A Rational Empiricism. E. S. Bullock and L. S. Peters. O. 486
Tuberculous Laryngitis. Guy H. McFall. O. 425
Tumors in Pregnancy, Labor and the Puerperium, Benign and Malignant Ovarian, Parovarian and Uterine. A. Belcham Keyes. O. 683
Tuscola County Medical Society Plan for the Care of the Indigent Sick. W. C. Garvin. O. 534
Typhoid Fever and Its Treatment, Résumé of. F. C. Penoyer. O. 330

PAGE

U

Urinary Tract Calculi. Ab..... 65
Uterine Prolapse. J. H. Carstens. O..... 767
Uterus, The Operative Treatment of Retrodisplacement of the. Ab..... 64

V

Vaccine Therapy. W. T. Dodge. O..... 221
—In Diseases of the Eye, Ear, Nose and Throat. D. B. Cornell. O..... 662
Value of Publicity to the Medical Society. C. M. Williams. O..... 536

W

Water Purification. John W. S. McCullough. O..... 477
What's the Matter with Michigan? Ed..258, 732
White Eskimo and Civilization, The. Ed.... 734
Why the Practice of the Specialties Should Be Controlled. Ab..... 208
Workmen's Compensation Act, The. Ab..... 811

Y

Year, The, 1912 and Our Journal. Ed..... 801

INDEX BY AUTHORS

Biddle. Andrew P. Erysipelas. O..... 273
Blain, Alexander W. Primary Hyperplastic Tuberculosis of the Appendix. O..... 614
Boise, Eugene. Fever of the New-Born. O.. 166
—Acute Heart Failure. O..... 757
Boys, Charles E. The Need of a Better Developed Obstetrical Conscience. O..... 40
Brainerd, I. N. Ectopic Gestation. O..... 287
Brooks, Clark D. A Résumé of a Year's Surgical Work. O..... 504
Brown, G. Van Amber. The Newer Methods of Diagnosis of Kidney Lesions. O..... 420
Bullock, E. S. Tuberculin Therapy—A Rational Empiricism. O..... 486
Camp, Carl D. Disturbance of Function of the Ear, Nose and Throat in Nervous Diseases. O..... 216
—What Is Epilepsy? O..... 551
Campbell, Alexander Mackenzie. The Direct Transfusion of Blood. O..... 627
Campbell, Don M. Frontal Lobe Abscess. O. 769
Carstens, J. H. Cesarean Section, The Second Time in Two Cases. O..... 96
—Uterine Prolapse. O..... 767
Clossen, O. E. Pituitary Extract in Obstetrics and Gynecology. O..... 650
Colver, Benton N. Maxillary Sinusitis. O.. 558
Corbus, Burton R. Pernicious Anemia. O.... 89
Cornell, D. B. Vaccine Therapy in Diseases of the Eye, Ear, Nose and Throat. O.. 662
Cullen, Ernest K. The Functional Test in Surgical Diseases of the Kidney. O..... 725
Davis, James E. The General Use of Fat in the Diet. O..... 11
DeHaas, N. Lues—Past and Present. O.... 123
Dodge, W. T. Vaccine Therapy. O..... 221
Dunlop, J. D. Advice. O..... 626
Eames, Lucy N. Clearer Diagnosis and Simpler Treatment. O..... 336
Enders, W. H. Cardiospasm. O..... 84
Elwood, Calvin R. Indications for Enucleation. O..... 658
Freer, Otto T. Chronic Suppuration of the Antrum of Highmore, Its Cure by Resection of the Nasal Wall. O..... 617
Freund, Hugo A. Clinical and Instrumental Methods of Estimating the Efficiency of the Heart. O..... 571
Garvin, W. C. Tuscola County Medical Society Plan for the Care of the Indigent Sick. O..... 534
Gillman, Robert W. Our New Section. O... 553
Girard, Charles L. A Plea for a Combined Scientific and Literary Course Preliminary to the Study of Medicine. O.... 609
Grulee, C. G. Constipation in the Infant: Its Causes and Treatment. O..... 500

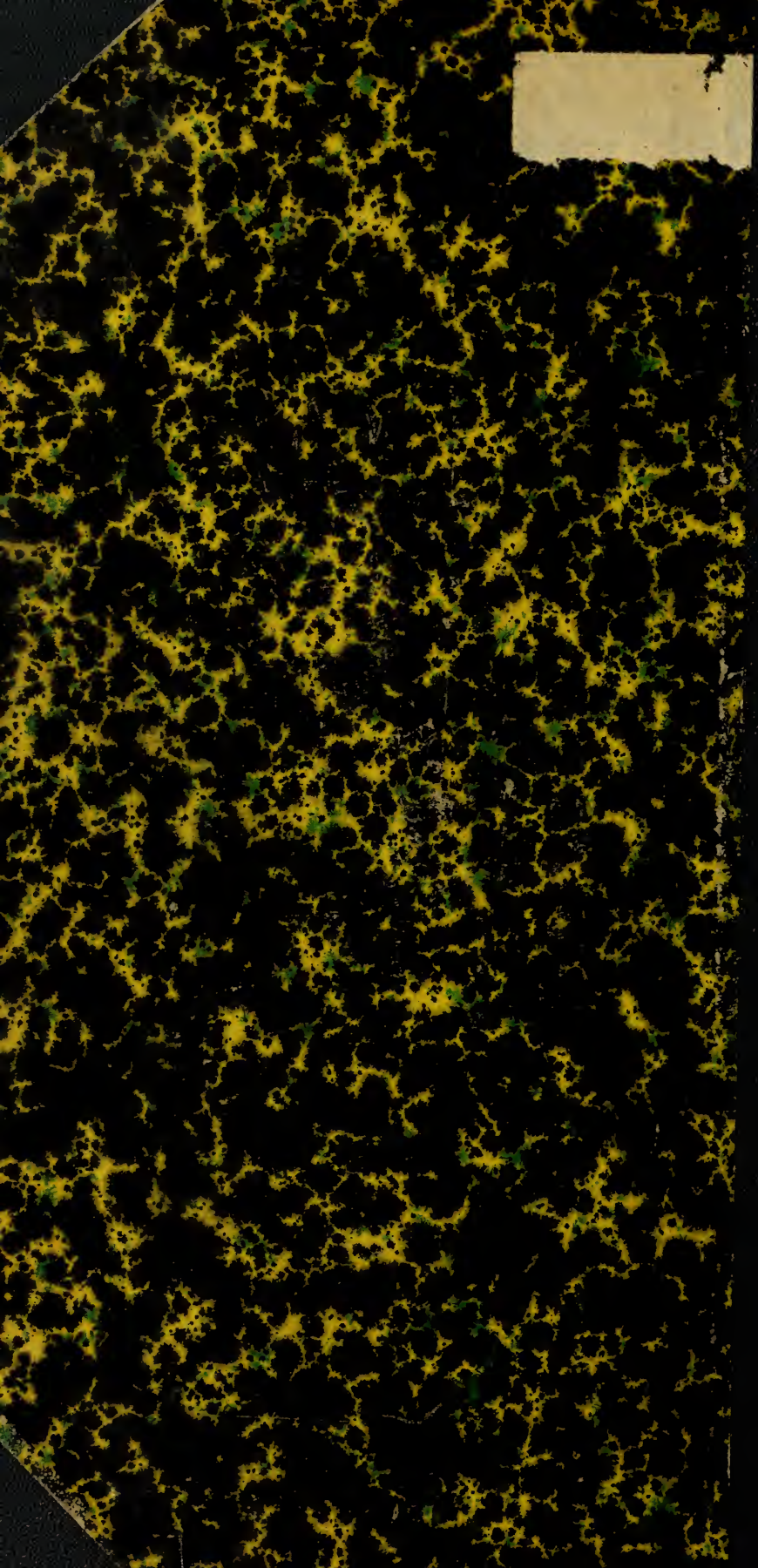
PAGE

Hafford, George C. General Considerations of Renal Surgery. O..... 106
Halstead, Albert E. Frontal Lobe Abscess. O. 73
Hartsock, Frederick M. The Management of Gonorrheal Rheumatism. O..... 773
Haynes, L. W. The Etiology of Hemorrhage of the New-Born, with Report of a Case. O..... 500
Hirschman, Louis J. Coloptotic Constipation. O..... 161
—Chronic Diarrhea as a Surgical Symptom. O..... 783
Hitchcock, Charles W. Aphasia. O..... 697
Holm, M. L. The Treatment of Diphtheria Bacilli Carriers. O..... 327
Hooker, Charles E. Erysipelas, Symptoms, Etiology and Pathology. O..... 267
Hotvedt, I. M. J. Cirrhosis of the Liver. O.. 715
Irwin, John L. Remuneration of Physicians. O..... 428
Jackson, John B. The Relation of Convulsions in Children to Dietary Errors. O.. 710
Jamieson, R. C. Résumé of Twelve Years' Experience with the Roentgen Ray as a Therapeutic Agent. O..... 29
Jennings, Charles G. The Honorable Position for the Family Physician to Assume. O. 795
Kamperman, George. A Study of 212 Cases of Cancer of the Uterus, with Special Reference to Early Diagnosis. O..... 582
Kassabian, N. H. A Peep into Medical Antiquity. O..... 344
Keyes, A. Belcham. Benign and Malignant Ovarian, Parovarian and Uterine Tumors in Pregnancy, Labor and the Puerperium. O..... 683
Keyes, L. W. A Case of Pellagra. O..... 231
Leenhouts, A. Treatment of Puerperal Eclampsia O..... 416
Leland, R. Genung. Treatment of Eclampsia by Vaginal Cesarean Section. O.... 282
Lescohier, A. W. Pituitary Extract in Obstetrics and Gynecology. O..... 650
Levy, David J. The Status of the Carbohydrates in the Digestion of Infancy. O.. 16
Longyear, H. W. Surgery of Displacements of the Kidneys and Colon. O..... 115
Lyon, James J. Eclampsia. O..... 280
Manton, Walter P. Why Is the Surgeon Importuned by the Family Physician to Charge a Fee? O..... 796
Maurits, Reuben. Nitrous Oxid-Oxygen Anesthesia. O..... 151
Mayo, Charles H. Disease of the Thyroid. O. 1
McCullough, John W. S. Water Purification. O..... 447
McFall, Guy H. Tuberculous Laryngitis. O. 425
McGraw, Theodore A. Ethics—Its Application to Fee-Splitting and Commission Business. O..... 794
McLean, Angus. A Résumé of a Year's Surgical Work. O..... 504
—A New Instrument for Suprapubic Cystotomy. O..... 83
McVeigh, James A. Office Management of Rectal Disease. O..... 182
Mortensen, M. A. The Dietetic Management of Diabetes. O..... 22
—Prophylaxis and Management of Cardiovascular Diseases. O..... 402
Palmerlee, George H. The Operative Treatment of Fractures. O..... 778
Parker, Walter R. The Use of Salvarsan in Interstitial Keratitis; Report of Ten Cases. O..... 637
Penoyer, F. C. Résumé of Typhoid Fever and Its Treatment. O..... 330
Peters, L. S. Tuberculin Therapy—A Rational Empiricism. O..... 486
Pilcher, Paul M. The Choice of Operation for the Relief of Prostatic Dysuria and the Preliminary Treatment Indicated. O. 3
Randall, H. E. Principles for the Cure and Treatment of Hernias. O..... 100
Reycraft, John J. Unnecessary Colpotomy. O. 226
Robbins, Frederick W. Renal Tuberculosis. O. 109
—Fee-Splitting from the Surgeon's Standpoint. O..... 798

PAGE

Roberts, John B. Recent Advances in Plastic Surgery of the Bones. O..... 545
Robinson, James L. The Management of Gonorrheal Rheumatism. O..... 773
Sample, C. H. Treatment of Fractures. O. 211
Schenck, Benjamin R. Physostigmin Combined with Morphin in the Treatment of Pain Following Abdominal Operations. O. 156
Shepard, Benjamin A. Auto-Intoxication. O. 354
Shurly, B. R. The Surgical Tonsil with a Discussion of the Indications and Technic Required for Enucleation. O..... 646
Simpson, H. L. Hand Knowledge: Its Results and Possibilities for Acquirement. O. 704
Smith, Richard R. Nitrous Oxid-Oxygen Anesthesia. O..... 151
Tibbals, Frank Burr. The Relation of Surgery to Medicine. O..... 36
—The Treatment of Trifacial Neuralgia by Deep Alcoholic Injections. O..... 233
Varney, H. R. Résumé of Twelve Years' Experience with the Roentgen Ray as a Therapeutic Agent. O..... 29

PAGE

Vaughan, Roger T. Frontal Lobe Abscess. O. 73
West, Arthur Eddy. Some Things to be Remembered in the Management of Stricture. O..... 175
Welsh, D. Emmett. President's Address. O.. 472
Welz, Walter E. Pre-Eclamptic Toxemia. O. 410
—Michigan's Midwife Problem. O..... 788
Wheelock, A. S. Puerperal Infections. O... 170
Whinery, J. B. The Nature, Symptoms and Treatment of the Toxemias of Pregnancy. O..... 641
Williams, C. M. Value of Publicity to the Medical Society. O..... 536
—Clearing Our Skirts of the Suspicion of Medical Graft. O..... 342
Wilson, Harold. The Effect of Fee-Splitting Upon the Family Physician. O..... 797
Wilson, W. J., Jr. Treatment of Abdominal Ascites. O..... 633
Witter, F. C. Traumatic Myxosarcoma of the Knee, Simulating Tuberculosis of the Joint, with Report of a Case. O..... 566

OLZER
INDER
TON, MASS.